STARTING YOUR RAILROAD LAYOUT

RAILROAD MODEL CRAFTSMAN

DECEMBER 1956
50 CENTS

BUILDING AN HO BEGINNER'S LOCOMOTIVE

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SANTA FE DIESEL

•

ROLLEY PLAN

•

LAYOUT DESIGNS YOU CAN BUILD

•

PHOTOS

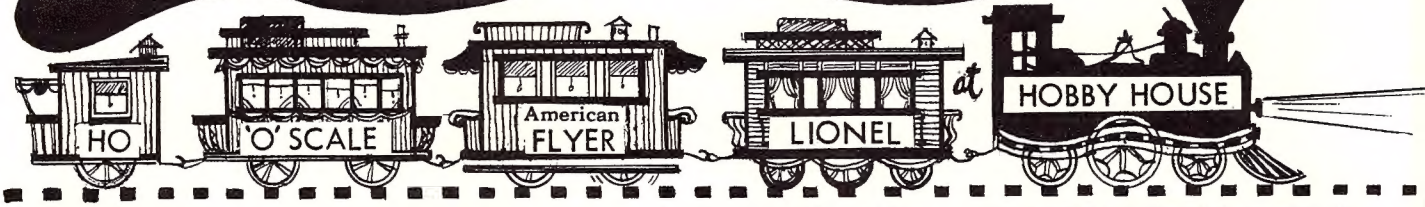
•

SCENERY

•

SWITCHES

MOST COMPLETE SELECTION OF MODEL TRAINS - ANYWHERE!



SPECIAL TRACKAGE for LIONEL

Gargraves: Realistic scale appearance, wood ties, bend to any desired pattern, terrific:

Gargraves Flexible Track, 3' sec.	.95
Gargraves Stainless Flexible Track, 3' sec..	1.20
Track pins, connect w/O or 027, specify dz.	.25
Gargraves Manual Switches, Rt or Lt. . . . ea.	5.50
New Gargraves Electric Switches w/controller—R, L	10.95
Century. Hi-Speed Switch—black bakelite base conceals wiring tubular rail, R or L . . . . . ea.	7.50
Century Electric Switch w/controller—R,L.	11.95
Peare .250 Hi-Rail Brass Switches mounted on wood. Lionel O height. Rt or Lt. . . ea.	6.95
Peare .172 Brass Rail Flexible Track, 3'. . .	1.65
Switch Machines: Make switches automatic.	
Hand Switch Controller (stand). . . . . ea.	1.50
Polaris. . . . ea. 2.25 Lindsay. . . . ea.	2.95
(Both mount above or below table)	
Challenger—best, below transmt only. . ea.	3.50
Switch Controllers: Operate Switch Machines	
Mallory Lever Controller (1.49).	.79
Toggle Switch SPDT Mom Center off (1.)	.69
Jiffy—operates 7 switches	2.25
Best friend of Charleston skematic control w/illumtd lucite buttons	1.49
Wood ties to match Lionel metal ties, O or 027, Pkg. of 115 for	1.00
Track Mounting Screws, O or 027. . . 3 doz.	.50
Cork Roadbed—3' curvable sec for O gauge.	.50
3' curvable sec for 027.	.50
Terrific Over & Under Trestle Set—Hardwood, 10 pcs up, 10 pcs down. . . special	4.95
H562 Hi-Rail Switch Kits, R or L	4.50
H513 Hi-Rail Double Crossover Kit	19.50

Operating TURNTABLE for LIONEL or FLYER or O SCALE

25¼" Long, with GarGraves Track. Operates completely by remote control. Rotation 360° in either direction. Wired and completely ready to run. Sturdy. Terrific 29.95
Shipped by express. Send no postage.

SPECIAL TRACKAGE for FLYER

Gargraves. Bend to any curve, wood ties.

Gargraves flexible track, 3' sec.	.95
Gargraves stainless track, 3' sec.	1.20
Gargraves switches manual, Rt or Lt. . . ea.	4.50
Gargraves Electric switches w/controller, R or L	10.50
S101 Flexible .172 brass rail on fibre tie strip. Connect w/Flyer. Put on roadbed 3'	1.20
Peare Switches w/above rail mounted on wood w/ties. Use w/Flyer, Gargraves, .172. R or L	3.65
TruScale Hispeed switches—highest quality, (use w/all tracks) Right or Left.	5.25
Sound Deadening Cork ROADBED. 3' Curvable	.50
24" Radius circle of roadbed wood (3.25). .	1.00
TruScale Plain wood roadbed in Reference Catalog.	
Switch machines and controllers under Lionel.	
Track mounting screws for Flyer. . . 3 doz.	.50

BUILD CAR KITS for FLYER

Ambroid quality wood kits, super detailed, knuckle couplers, trucks. Complete. Fine!

Watermelon Car Kit ACL, Reg $6. . .Special	4.75
Stock Car Kit MKT or Southrn ($6) Special	4.75
Winged Snow Plow Kit, Reg $7. . . .Special	4.95
PB. B40/S 40' Box Car kits. . . . . Special	4.50

Extras To Operate with Flyer

S-520 4-Wheel Streetcar. Operates alone. .	4.95
S2K Ribbonrail Track Cleaning Car w/adjustable couplrs. Adjustable for track pressure and loco drawbar pull. No liquid or upkeep. .	6.85

DINKY TOYS

Terrific realism, rich coloring, 1/48 scale.

Dinky Toy Catalog	.10
105 Jaguar Sports Car	.85
106 Austin Convertible	.85
129 M.G. Sports Car	.85
131 New Cadillac Eldorado	1.25
132 Packard Convertible	1.25
154 Hillman Minx	.75
157 Jaguar XK 120	.85
170 Ford Fordor Sedan	.85
171 Hudson Commodore	.85
172 Studebaker Land Cruiser	.75
251 Diesel Roller	1.50
252 Refuse Wagon	1.75
253 Daimler Ambulance	1.00
254 Austin Taxi, w/driver	.85
260 Royal Mail Van	.85
282 Duple Motor Coach	1.00
290 Double Decker Bus	1.00
300 Farm Tractor	1.25
301 Field Marshall Tractor	1.35
310 Tractor and Rake	2.50
320 Harvest Trailer	1.00
321 Manure Spreader	1.25
F32aj Kodak Panhard Truck	2.50
F32c Esso Articulated Lorry	2.50
F33c Glazier's Truck	2.00
F34b Container Truck	2.75
F49d Esso Tanks & Sign	1.35
323 Triple Gang Mower	1.50
324 Mechanical Hay Rake	1.25
342 Motocart	1.50
343 Farm Produce Wagon	1.00
344 Estate Car	1.00
401 Forklift Truck	1.85
405 Universal Jeep	1.00
410 End Tipper	1.50
411 Bedford Truck	1.35
412 Austin Wagon	.85
414 Rear Tipping Wagon	.85
421 Elec. Articulated Lorry	1.25
422 Fordson "Thames" Flat Tk.	.85
429 Trailer	.60
430 Wrecking Car	1.85
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471 Austin Service Van "Nestles"	.85
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491 Electric Dairy Van	1.00
621 3-ton Army Truck	1.50
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F24u Simca Aronde	1.00
F24y Studebaker Commander	1.00
F25o Milk Truck w/Cans	

Quality SCALE BUILDING KITS

For Lionel, Flyer, O Scale. By Suydam. Exciting Realism. Easy-to-build! Very popular. Following are die cut corrugated metal:

01 Furniture Factory w/fine detail	5.95
03 Northside Tool & Die Factory w/multiple "sawtooth" skylight roof	5.95
05 Black Bart Mine w/mine hoist & loading bin	3.95
07 Warehouse, Standard metal building w/sliding doors & roof ventilators	5.95
010 Pump House-Water Co. w/pump house, pumping tower, & storage tank	3.95
011 Sawmill & Shed w/outhouse, incinerator, cyclone & piping	3.95
061 Interlocking Tower & Shed. Includes "electric" interlocking machine	3.95

These are delux all wood kits:

054 MH Tool House w/windows & Safety signs	1.25
055 MH Wayside Waiting Room. P.R.R. prototype	1.75
056 MH Station Platform for all type platforms	1.95
053 MH Passenger Shelter, shingle-roof, floor, and siding	1.25
Lee Deck Girder Bridge—Single track, 15" long	2.25
Lee Timber Trestle—will span a 27" valley, 8" deep	3.50
Lee Passenger Sheds. Includes benches	1.29
Lee Cattle Pens & Loading Dock	3.50

Super Detailed BUILDINGS

Illuminated, all wood, ready built, interior detail & metal figures. For Lionel, Flyer, O scale!

	Save:
270 News & Frank Stand (3.00)	2.25
271 3 pc Whistle Stop Set (4.00)	2.69
272 Station & News Stand (4.00)	2.49
273 Signal Station (4.00)	2.49
274 Freight Station (5.00)	2.89
400 Waiting station (4.00)	2.95
700 Station—news stand (4.00)	2.89
1000 Fabulous Diner (5.50)	3.49
These do not have interior detail:	
161 Stations Platforms (3.00)	1.98
161 Bungalow (4.00)	1.98
162 Factory (4.00)	2.49
163 Tylerville Combination Station (5.00)	2.69
164 Barn (5.00)	2.98
165 Grain Elevator (5.00)	3.19
166 Church w/bell (5.95)	3.49
167 Town Hall (5.95)	3.49
168 Hotel (5.95)	3.49

Real Specials—all! Limited quantities—buy now!

Colorful CIRCUS WAGON SET Save 63%, NOW 98%

For Lionel, A. Flyer or O Scale. Easy Assembly. Wheels will roll freely. Includes 1 ea. of Tableau Band, Steam Calliope and Lion & Gladiator. Wagons. Ea. reg .89; All 3 for .98.

TRUCKS with TRAILERS

¼" scale, diecast, rubber wheels, colorful:

3-4 Ford Semi Truck with grain bed trailer	.79
3-5 Ford Semi Truck with Machinery Hauler Trailer	.69
10-6 Mack Semi Truck with Gas Tank Trailer	.89
3-7 Ford Semi Truck with Pole Trailer	.69
3-8 Ford Semi Truck with Flat Rack Trailer	.79
10-9 Mack Semi Truck with Freight Van Trailer	1.19

PLASTICVILLE, U.S.A. — Specials

CT-5 evergreen tree; FR-5 barbecue . . . ea.	.05
YW-4 yard pump; WF-5 platform fence. . .	.05
RF-1 rural fence	.05
WW-8 wishing well	.10
CG-10 picket fence gate	.10
WG-10 platform fence gate	.10
RG-3 rural fence gate	.15
SA-7 outhouses; PB-5 footbridge	.10
SL-1 boulevard light	.19
HF-2 house fence & gate (.25) . . . . . box	.49
SM-3 freight platform (.49)	.89
BL-2 bridge & pond	.79
LC-2 log cabin set (.89)	.79
DE-7 diner (.89)	.89
DH-2 drug store; CS-5 chain store (1.00).	.89
PD-3 police station; SC-4 school (1.00).	.89
SM-7 Super market (1.00)	1.19
AP-1 airport with 2 planes (1.29)	

Our REFERENCE CATALOG of EVERY IMAGINABLE EXTRA for Lionel, Flyer and Marx

Fully illustrated, a must for every train owner. 5th Printing—completely new. A wonderful help in expanding your railroad. Fully described. Many special prices. Handy! Specify for Lionel or Flyer. You'll be glad you have one. . . . . Only 25c
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(BH-2) trestle bridge (1.00)	.89
1605 plastic people and paint	.98
1606 (BY-4) barnyard animals (1.00)	.89
1607 (FH-4) firehouse (1.00)	.89
1616 (RS-8) suburban R.R. station with benches	1.00
1617 21 pc. farm buildings and animals.	1.00
1700 (LH-4) 2-story colonial house (1.29).	.89
1701 (MH-2) 1½-story New England Rancher (1.29)	.89
1800 (GO-3) gas station with auto (1.49).	1.35
1801 (BK-1) bank (1.49)	1.35
3-D Maple or Spruce Tree	.10
CF-5 Picket Fence, white	.05
1001 (GR-6) Spruce trees . . . . . ea.	.05
1025 (LP-9) street lights (2 to a card) per card	.10
1027 (FP-5) flagpole	.10
1028 (BB-9) billboard	.10
1029 (WG-2) crossing gate	.10
1100 (12-A) street signs	.39
1200 (LM-3) freight platform	.49
1302 pc. Farm implements	.59
1400 (HP-9) cape cod house (.79)	.69
1401 (FB-1) frosty bar (.79)	.69

AMERICAN FLYER BARGAINS!!

Everything in the catalog all 12 months.

781 Abutment Set (Trestle) (6.95)	3.95
799 Talking Station (19.95)	15.95
5300T Miners Work Train (14.95)	8.95
(complete with Handcar, 3 cars, oval)	
740 Handcar (7.95) Operating	4.95
715 Automatic Unloading Car (5.95)	4.49
718 Mail Pickup Car (6.50)	4.49
752A Seaboard Coal Elevator	15.95
766 Animated Station w/car (14.95)	7.95
761 Semaphore operating (6.95)	3.88
759 Danger Signal	2.49
769 Revolving Beacon (3.50)	1.19
697 Track Trip automatic (1.50)	.99
Straight and Curved Track . . . Now	.24
½ Straight and ¼ Curved. . . special now	.19
Straight and Curved Roadbed	.25
18B 2 Train Transformer (29.95)	22.50
372 UP Diesel Switcher (25.00)	22.50

BUILD KITS for LIONEL

Easy to build, couple w/Lionel. Complete.

222 Box—50 ton (give 3 road names)	5.95
333 Refrigerator (give 3 road names)	5.95
444 Caboose—special designs	6.95
4700 Walthers Pickle Car Kit	4.25
Thomas Shawnee Express or Branch Line Special, complete locomotive kits	29.95

EXTRAS operating with LIONEL

0500 4-wheel Streetcar. Operates alone. . .	4.95
0510 Operating Handcar. Section Hands pump it around the track. Colorful. . . .	4.95
0-4C Ribbonrail Track Cleaning Car w/an adjustable track pressurer. Terrific . . .	7.50
Old Time Locos—colorful, all metal 4-4-0; ready to run w/Lionel sequence reverse, worm drive, headlight, knuckle couplers. Choice of 1875 Shawnee Express—red, green, black, polished brass or 1905 Branch Line Special—black, polished brass & smaller stack. Terrific operation.	29.95
All Metal Old Time Cars. 1870 Colorful passenger cars (yellow, green or red):	
Coach, baggage-coach or baggage . . . . . ea.	5.50
1869 Classic Pennsy Coach. Add too!	7.50
Freight Cars: Pulpwood Car w/log load	4.75
Flat Car w/Stakes	4.50
Gondola w/sides, metal frame	5.50
4-wheel old time caboose	4.95
0-6-0 Interior lighting kit for caboose	4.50
(Above cars have trucks & knuckle couplers)	
Budd RDC Car w/remote control reversing, illuminated, 11½" long, for 027, by Marx	9.95
211 Illuminated Bumper for Lionel track . .	1.25
Lionel 0209 set of 6 barrels (.50)	.30

Scale Illuminated Lamp Posts w/bulb, wire:

7 metal, green Boulevard Lamp	.85
14 metal & brass, green Goose Neck Lamp	1.39
M426 Twin Lamp Post, grey	.98
LL-45 green, bakelite . . . . . Set of 3	1.98
14 Colorful Buildings on heavy cardboard stock PC1 Cutout Book. Great Value. . . .	1.00
LYKEN—green or mixed w/rust, grey per box (to make own trees, bushes, hedges)	.98
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Landscape Sheets, 50" x 18", realistic . . . Choice of Grass, Meadow, Earth, Cork, Ballast, Snow or Sand.	1.00
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The LANDSCAPER Set—w/48" x 96" Grass Mat, 12" x 48" brown earth mat, 12" x 48" white path, 5 assrtd rees, shrubs & bushes—all necessary materials for 4' x 8' Value 4.95

Scenic Paper: multi-colored mottling authentic:	
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Engineer's Caps—small, medium, large. . . .	.89
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We've a Complete Lionel Stock all 12 months.

41 Army Turbine Switcher (10.95)	8.88
51 New Navy Turbine Switcher (10.95)	9.50
646 Large 4-8-4 Hudson, Sm, Wh (37.50)	33.33
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1615 0-4-0 Switcher (22.50)	18.88
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2338 Milwaukee GP-7 w/horn (25.00)	19.99
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3435 Operating Hopper Car (6.95)	4.95
3461 Operating Lumber Car (7.25)	5.55
3562 Operating Barrel Car (8.95)	6.95
6457 Lighted Caboose, 2 couplers (5.95)	3.33
6414 Transport Car w/4 autos (8.95)	7.49
6417 Lighted Pennsy Caboose (5.95)	3.88
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Regular Kerosene lantern with globe, 11½" high with the handle extended. 5" wide. Realistic. Good for every railroad. Only 1.98

50 Action Section Gang Car (6.95)	6.66
110 Trestle Set (5.95)	5.69
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450 Oper. Overhead Signal Bridge (7.95)	6.39
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UCS 0 Uncoupling Track (4.95)	4.19
400 New Budd RDC CAR terrific (25.00)	23.69
Extra locos, cars, track, switches, all!	

SPECIAL WIDE RADIUS TRACK FOR LIONEL 027

182 Wide Radius Manual Switches for 027 pr.	4.95
1082 Wide Radius Remote Control Switches . . . . . pr.	9.95
1801 Wide Radius 027 Curved Track Sect.	.35

Tell your electric trains when to "Go!", "Stop!", "Back-Up!" with fabulous AUDIO ENGINEER. Control your trains by sound and breath impulses of your voice thru precision electronic microphone control. 5.95

For Lionel, Flyer & O Scale Only:

205 Authentic scale Telegraph pole kit w/10 grey poles (1.50 value) . . . . . at	.49
BA2 Rotating Beacon mounted on Assembly for mtn, yard, city or farm (1.50)	.98
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Set of 9 Handpainted RR figures	1.98
3 different skaters or bobees ea. .25. 3 for	.66

Scale Model Truck Kits:
Easy to build, accurate detail, **For Lionel:**

H1400 Ford 1956 Pickup Truck	.89
H1402 White Freuhauf tractor-tank w/figs.	1.69
H1403 Kenworth Truck w/Freuhauf trailer	1.98

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Post. and Ins.—40c up to $10.00. 65c over $10.00 Free in Ohio_____

Minimum Order on 3 ft. Track Sections—6 secs. Total_____

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HO page

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TRACKAGE
BUILDINGS
ACCESSORIES
TOOLS

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All real savings for you! Compare.
3 fine red Sable Brushes—Nos. 1, 3, 5 set .79
Set of 7 different R.R. Paints, thinner and fine brush. Outstanding value 79
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Dremel MotoTool Kit for Drilling, Grinding, Polishing, Carving, Sharpening, Finishing. Basic model builder's tools.
Kit No. 2 w/23 accessories; in sturdy case 25.95
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Send 3c for Illustrated Info on Dremel Tools!
All your tools available at Hobby House.

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Cut brass, aluminum, wood, plastic—A must:
HH Razor Saw .98; Large Homecraft Saw 1.49
To cut balsa or plywood—Keyhole Saw . . .75
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Over 3000 Champ DECALS

Amazing selection. Reletter your cars, locos: Complete Sets for HO:
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All Others . . . . . .30; 5 for 1.29
Liquid Solvaset, makes decals permanent .50
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Box, Tank, Reefers . . . . . .50; 5 for 1.99
All Others, only . . . . . .40; 5 for 1.59

HO MATCHBOX VEHICLES

Colorful, die cast, practically scale.

1	Steamroller	15 Lorry	.49
2	Dump-Truck	16 Trailer for Lorry	.49
3	Cement-Mixer	17 Moving Van	.49
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Add life like realism w/these extras. By Ideal.
B108 Electrified Watering Trough, 1 lite 2.00
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B105 Electrified Flashing Crossing Signal, 2¾" 2.25
B103 Electrified Railroad Bumper, illuminated 98
B101 Electrified HO Lamp Posts, green 4 for 1.50
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CMT Up & Down Graduated Trestle Set, metal trestles (regular 7.95) 24 pieces, set now 5.95
Up & Down Graduated Trestle Set, Plastic, 31 pieces 3.95
Reliable, Fast Efficient Service—Always!

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Fine wood w/sprung metal trucks; Easy to build. Cabooses: 30' 4 window **2.95**; MP, 34' Combination, Bay Window ea. **3.50**; SP, UP 30', B&O 28', Frisco 28' & GN . . . . . ea. **3.25**
Box Cars: UP, C of G, EJ&E, M&StL, Frisco Fst Frt, RI Rkt, C&O, Minn Mining . . . . . ea. **2.95**
Automobile Cars: Southrn, RG. w/double doors . . . . . ea. **2.95**
Refrigerator Cars: NP, SP-UP, GB&W, MDT-NYC, SF, Wabash-McPac, Swift, Burlgtn, GN, Peoria, Colorado So. . ea. **2.95**
Work Cars: Bunk car, Commissary car, Engineering car, Boom car . . . . . ea. **2.95**
Caboose Supply Car **3.50**
200 ton Bucyrus Wreck Crane Kit. Athearn **8.50**
Every freight and Passenger Kit made available at The Hobby House. We've Athearn, Ambroid, Authenticast, Bindow, Cox, Detail Line, Central Lines, Herkimer, J-C, Laconia, Main Line, Mantua, Roundhouse, Ulrich, Varney, Walthers, Ayres, Kemtron, Int, LW, Suydam.
Consult any ad, any (preferably our HO) catalog.

SCENIC ACCESSORIES for HO

See Page 1 & HO Money Savers. Plus these:
Hedge, green or flowered, 6 pcs 98
Ornamental Flowers, 6 asstd, bags 98
Vine, plain green or flowered, 7/box 98
Marnold 100° Hydraulic Turntable 42.50
Cutout Book of HO Scale Bldgs. Full color on heavy cardboard. No. 2 has 20 bldgs; No 1—22 . . . . . ea. 1.00
Switch Machines for switches:
Klik economy machine **1.35**; Polaris for HO **2.25**
Our inventory—legend to model RRers everywhere.
Deaden sound. For snap or scale track.
CORK: 3 Ft. Sections, Curvable . . **Special .29**
Switch Blocks: Wye (for snap switches), No. 4, No. 6, No. 8, R or L . **Special .29**
64 Page HO CATALOG—Fully Illustrated, Very Handy! Much, much more. Terrific! Only 35c

MARN-O-POWER Delux Power Units

Finest DC packs made. Add to as pike grows! And now more expensive. **C-25 Pack**—12 volts @ 2½ amps. DC; 16 volts at 2½ amps AC; complete unit w/built-in 4½" terrific throttle handle, rotary reversing switch w/center off & on-off toggle switch. Ample for 3 or 4 trains. Has controlled DC output; uncontrolled DC for added controls (see below); AC for accessories; DC for reverse loops, etc. Actually cheap! **25.50**
HO30L Throttle Control—add to C-25 & run 2 more trains separately. 30 ohms, w/25 ohm load compensator, rotary reversing switch & reverse loop post **11.50**
Marnold Ad-A-Panel Controls—almost endless combination of power controls for RRer who's really going places.
C-40 Beginning Pack w/4 amps DC, panels **37.50**
4250 Complete HO Control (Ad-A-) Panel **64.50**
Send 10c for detailed information. Here's Finest! Similar units available now for O gauge scale.
Complete stock of all Marn-O-Power Equipment.

POWER PACKS Guaranteed

Scintilla: Top Quality!
Unipack—run 1 loco plus extras **10.95**
Electrapack Sr w/dual control,. 3 trains **24.95**
And all other Scintillas Advertised Anyplace!
Model Rectifiers: Throttle Pack **13.75**
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MRectifier Triple Control Pack **42.50**
Hobbyline 1 amp pack w/lites (9.95) . . . **8.95**
Complete Lines top of Leighton Paige.

HO Scale BUILDING Kits

Pre-cut wood and die cast metal parts. By Alexander.
RS-345 Burlington Water Tank **3.50**
RS-200 Fairbanks-Morse Coaling Station **6.95**
RS-519 Brownhoist "Little Hook" **2.95**
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These are corrugated Metal Kits. By Suydam.
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2A Machine Works—Double Building . . . **4.25**
2B Machine Works—Single Building . . . **3.00**
3 Northside Tool & Die Works **3.75**
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5 Black Bart Mine (Bin & Shaft) **1.95**
6 Red-Lake Mine (Hillside type) **2.75**
7 Warehouse **3.75**
8 Branchline Roundhouse (3 stalls) . . . **5.25**
8x Extra stall for kit 8 . . . . . **1.25**
9 Enginehouse (2 stalls) **3.95**
10 Water Co. Pumphouse **1.95**
11 Sawmill shed With interior **4.85**
12 Grain Elevator **3.75**
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15 Barton Flats Lumber Co. **5.25**
16 Industrial Offices **1.95**
17 Mining Hoist House **2.25**
18 Mining Company Mill **2.50**
19 Pacific Foundry **2.95**
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52 Modern Tract House—Gabled Roof . **1.95** (Yellow, Dk Green or Burgundy)
53 Tract House with separate Garage . . **1.95** (Cream, Light Green or Rose)
61 Interlocking tower & shed **2.50**
62 Wayside Shelter—Concrete block . . . . **.95**
63 Wayside Shelter—All Season . . . . . **.95**
64 Passenger Station Shd **2.95**
65 Passenger Station Shed **2.95**
Excellent former Argy kits. By Suydam:
80 Modern Yard Control Tower **4.50**
81 Grand Junction Box Factory **3.25**
82 Purina Chows Feed Mill **3.45**
83 Sunkist Citrus Exchange **3.25**
84 Freight Terminal **4.25**
85 Swift Meat Packing Plant **3.65**
86 Wells Fargo Express Station **1.95**
87 Mail Pouch Tobacco Barn **1.95**
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553 Country Church **2.95**
MH Wayside Buildings Kit **2.95**
MH Star Garage Kit; 554 Country School . . . . . ea. **2.50**
MH Rural House & Outhouse Kit **2.50**
MH Frt. Hous & Platform Kit **1.95**
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MH Company House Kit **1.95**
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Fabulous Scale Colored Village for HO.
HO6 Spruce Trees . . . . . **.05**
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HO58 Cape Cod House . . . . . **.59**
HO59 Ranch House . . . . . **.59**
HO70 Frosty Bar: HO71 Colonial House (white and green); HO72 Switch Tower (Grey & Brn); HO73 Signal Bridge; HO74 Super Market; HO75 Chain Store; HO76 Drug Store; HO77 Post Office; HO78 Police Station; HO79 Fire House each . . . . . **.79**
HO96 Trestle Bridge; HO99 Church; HO100 Passenger-Freight Platform; HO97 Barn; HO98 School House . . **each 1.00**
HO298 Complete Farm Set **2.98**
HO497 Complete Railroad Accessories w/ station, bridge, switch tower, etc. . . . **4.98**
HO498 Complete Community Set **4.98**
Complete Stock of Penn Line, Revell, Varney, Tyco, Hobbyline, Athearn, and Fleischmann Sets;
O GAUGERS—Big news for you next month. Watch!

HO MONEY SAVERS

HO Brass Track on fibre ties strip. NMRA. Per 3 foot sec. . . .49 25 secs for 10.00
Cork ROADBED for added RR realism!
Switch Blocks: Wye, 4, 6 & 8, R or L 29
3 ft section of cork flexible roadbed 29
Set 4 Horses, 4 Cows, very realistically painted 1.79
"FlexiFit" Delux Freight & Passenger Station, Basswood, Precision cut wood. Can make home of your design w/same kit. Terrific (3.50) 1.89
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KK switch Controller (reg. 1.00) 59
KK Automatic Color Lifht Signal (2.95). . 1.49
KK Automatic Semaphore Signal (2.95). 1.49
Dky Set of 6 Passenger or Frt. Figures .79
½ Pint of our special Loco Black lacquer 1.59
WA 3 point track gauge 30
GT Hypo Oiler-needle puts oil in rt place .98
48 Unpainted Passenger Figures. Wow—only 98
8 Painted Railroad Figures, standing. . 1.19
All metal, sprung Bettendorf Freight Truck Kit . . . . . regular .75 now .39
Die cast Track and Bumper (reg. .75) . . .29
Arden 52' Baggage Car Kit, wood & metal, choice of arch or monitor roof. Many RRs use old baggage cars w/modern coaches to save money. (3.50) 1.69
Use 410M coach green. 4 whl pass trucks (to) 89
Get more for less at Blum's Hobby House.

HO Ready-To-Run Locomotives

All beautifully painted. Most available in sets.
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Northern Pacific Diesel 'A' Unit **19.50**
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Midget Diesel Switcher **14.50**
Hobbyline: B&O Blue Diesel Switcher . . . **16.00**
Twin Unit Freight Diesel—Pennsy **25.00**
(Above diesels have headlite & plus power)
0-4-0 Switcher w/tender—Pennsy **20.00**
0-4-0 tank type "Shuttle Bug" Switcher **18.00**
Gilbert: real smoke & choo-choo sounds:
443 Pennsy 0-6-0 Switcher w/tender . . . **31.50**
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446 Hudson (like above) w/electrnc whistle **47.50**
430 Alco DL-600 Diesel w/12 whl drive **24.75**
Tyco: T-208 2-8-2 Mikado Loco **39.95**
T-212 4-6-2 Pacific loco **36.95**
T210 New 4-4-0 American "General" . . **27.95**
T217 0-6-0 Side Tank Switcher **18.95**
T209 0-4-0 Switch Engine **23.95**
T221 4-4 Futuristic Talgo Diesel **14.95**
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2551 Casey Jones 4-6-0 Ten Wheeler w/tender **32.50**
Fleischmann: 1340 Baldwin Diesel **17.95**
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Tenshodo C&NW Atlantic 4-4-2 . . . . . **36.95**
Tenshodo USRA Switcher 0-8-0 . . . . . **39.50**
Tenshodo FT, F-7 or F-9 EMD Road Diesels **33.50**
SD-9 EMD Road Switcher Ready to run . . **33.95**
GP-9 EMD Road Switcher (With Dynamic Brake) **31.50**
GP-7 EMD Road Switcher Ready to run . . **29.95**
Tenshodo Hand-made articulateds:
Up "Challenger" 4-6-6-4 . . . . . **117.00**
SP "Cab-forward" 4-8-8-2 . . . . . **132.75**
C&O "Allegheny" 2-6-6-6 . . . . . **153.75**
UP "Big Boy" 4-8-8-4 . . . . . **153.75**
Tenshodo Accessories Bucyrus 200T Wrecker **15.95**
Tenshodo Hand-Made Santa Fe "Texas" 2-10-4 . . . . . **103.75**
United Santa Fe 56' Tender **12.95**
United Buckeye 8-wheel Tender Trucks, pr. **6.95**
Pennsy Scale Models: FM Diesel Road Switcher Unptd. **22.95**

Extra HO CARS Ready Bilt

Penn Line: 451 Operating Searchlite Car **4.95**
452 Piggy-Back w/Trailer on flat car . . . **3.95**
Separate Trailers **1.50**
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Hobbyline: Gondola or Flat Car **2.50**
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ALL TYCO CARS ARE DIE CAST METAL, WEIGHTED too.

Snap-Central RR Layout Table

Made by Atlas, sensational value! Complete table (4' x 4' & 2' x 4') w/layout design printed on board, extra designs included. $42.50 worth of Atlas track and switches, $16.00 worth of lumber, plus cork roadbed and scenic extras. All pre cut ready to put together (takes couple hours). The sensation of last year. No longer made as costs Mfr too much. These are last available anywhere. **Order now.** Shipped f.o.b. Cleveland . . . . . only **59.95**

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Imported, brass construction, screw driver assembly on all these locos. Much detail. Terrific! Complete.
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USRA Switcher 0-8-0 Complete kit **29.95**
Baldwin Switcher 0-6-0T Complete kit . . **8.95**
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Complete kit with I-140 Power Truck **28.95**
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I-1 Pennsy I-1 Decapod Loco & Tender Kit **34.50**
L-1 Pennsy L-1 Mikado Loco & Tend. Kit **34.50**
K-4 Pennsy K-4 Pacific Loco & Tender Kit **34.50**
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HO Trolley Kits by Pennsy Scale Models.
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IRR Interurban Trolley Car **22.50**
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Authentic scale realism! silent, soft pine roadbed base stained and ballasted w/brass rail installed, w/rail joiners, ready for installation.
RTS 2' length STRAIGHT section **1.00**
RTS CURVED, choose your circle: 16", 18", 20" radius **6.00**; 22" **6.65**; 24" **7.30**; 26" **7.95**; 28" **8.60.**
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Snap Electric Switches, R/L . . . . . each' **4.50**
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We Will BUY or TRADE
Your complete railroad
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CLEVELAND 15, OHIO

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PENNSY GG-1

This powerful loco has illuminated number boards, 2 operating headlights. Both power trucks are driven & all moving parts run in oilite bearings. Metal. Green with gold lettering.

KIT $34.95
READY-TO-RUN 39.50

HI-LO "HO" Trestle Set

24 Pcs.

$3.95

HO gauge. 24 separate pieces allow you to make a great variety of grades. Specify if you want metal or plastic set.

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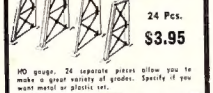

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HO gauge. Extremely realistic operation. Train operated. Has light and ringing bell.

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Brand new GN "tuil ender" ... a real beauty. Wood body with highly detailed die-cast fittings.

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Track for above, add 8.25

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MEW 44 TON DIESEL

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Multi Pack Sr. 37.95
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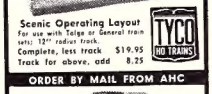

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$3.35 EACH

NEW BOX CARS. Wood Construction. Complete with trucks. Rd. Names: New Haven, S.P., B & O Merch; W.P.

hobbytown

NEW 12 WHEEL ALCO SWITCHER

6 wt. truck road switcher with all 12 wheels driving. All brass gears, metal body. Kit #2004.

$24.95

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Moqul Loco 19.95
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Alco Switcher 211K (8 wl. dr.) 29.95
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8 wl. dr. 220K (DC70 Mtr.) ... 19.95
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8 wl. d. 206K (DC 90 Mtr.) ... 19.95
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8 wl. dr. 186K (DC 90 Mtr.) ... 19.95
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Buried in This Ad are most of the new items. Sometimes there isn't time or space to list all of them. But, if available anywhere, we have it.

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Alco 1600 hp. Diesel - A 13.95
B - 13.95 Dummy B 4.95
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Booster — 9.95 Shifter 15.95
Valve Gear Kits - 2.95 Asmbld. 4.95
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Trolley 8.95 General 19.95
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Midget Diesel Switcher 9.95
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O-4-O Dockside 15.00
Brute Diesel A or B (Assmbld.) 15.00
Brute Diesel Dummy A or B ... 1.25
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MISCELLANEOUS

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GILBERT HO — Gilbert Set HO 320 Shown Here

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HUDSON FREIGHT SET W/WHISTLE (HO332). Includes: Hudson Engine (equipped with operating whistle, smoke and choo-choo sound, Tender, 3 Freight Cars, Caboose and 16 Snap-Track Sections (same as 310 above)	59.95

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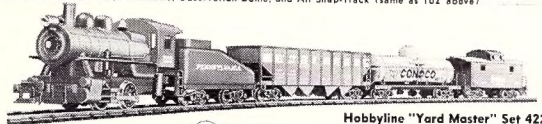

Hobbyline "Yard Master" Set 422 Shown

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Revell Diesel Freight Set T7000 Shown

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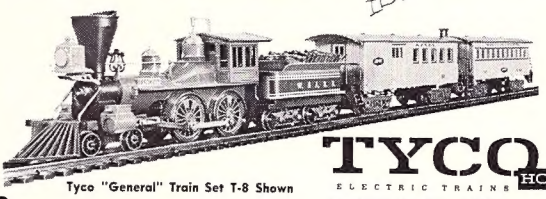

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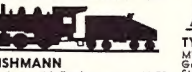

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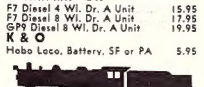

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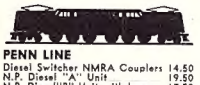

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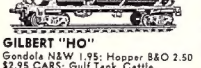

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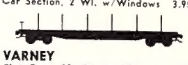

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A Letter From The Editor

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There have been tremendous changes in our model railroad hobby in the past few years. The old dividing line between the scale modeler and the tinplater is fast disappearing as the toy manufacturers continue to make their products finer and finer. Scale hobbyists often use ready-to-run equipment on their pikes. The tinplater has just as much scale equipment on his layout.

But there is a new line of divergence, a realinement of interests. In RAILROAD MODEL CRAFTSMAN, the hobbyist who likes to build his models will still find page after page chock full of the finest construction features, plans, and photos obtainable. He will have even more such material than before.

The tinplaters have also changed. HO tinplate manufacturers often adhere more fully to NMRA standards than do the scale manufacturers. In S and O gauge, wheel flanges, track, and couplers offer the only questions in many cases and these items see constant improvement. The tinplater, the former TOY TRAINS fan, has become a person who prefers to buy his equipment ready built so that he can spend more time in enjoyment of operation. He feels that he cannot make trains that match in perfection the equipment offered ready to run by his dealer.

In scenery, structures, and the many fine details around the layout, there is a common meeting ground. An O gauge cow is an O gauge cow.

In short, RAILROAD MODEL CRAFTSMAN will always devote itself to the model builder. The new TOY TRAINS section will be strictly for the ready-to-run fan who is a hobbyist. You won't find any under-the-tree layouts in its pages.

To the advertiser, RAILROAD MODEL CRAFTSMAN combined with TOY TRAINS offers the greatest opportunity ever offered for effective product presentation. Here for the first time is one model railroad magazine dedicated to the entire hobby of model railroading. In a fascinating manner, the beginners who prefer ready to run equipment will be introduced into the thrills of kit building.

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Hal Carstens

Managing Editor

Vol. 25, No. 7 December, 1956

RAILROAD MODEL CRAFTSMAN

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Contents

Seaford, Oyster Bay & Western Railroad—by R. Michenfelder 16
Santa Fe—First Multiple Unit Diesel—by Russ Porter 20
Beginner's 4-4-0 American—Construction Feature by Bill Schopp 22
Old Water Mill—Construction Feature by Lloyd Giebner 27
Load Those Open Cars—A Picture Story 32
Sacramento City Lines (P.G.&E.) Trolley—by E. R. Mohr 34
North Country Terminal—by Richard Andrews 36
Mt. Tamalpais & Muir Woods Railroad—A Road To Model 38
Railroads On Display—A New Section of Readers' Photos 41
Switch Machine Wiring—by John Kemp 44
Mailing Your Models 60

Departments

Safety Valve 8
Model Railroad Timetable 10
Dispatcher's Report 12
Offn The Table Top 47
Trouble Shooting 54
Test Track 56
Swapper Column 58
Picture Lessons In Model RRing 65

COVER: The Belvidere & Delta RR. of Dr. R. K. Undermann is one of the finest east of the Mississippi. The 8'x23' HO pike has 423 ft. of track, over 30 locomotives and 150 cars.

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HO metal scale ruler; parts box; 11 asstd. full color herald decals; set of 3 artist's brushes.

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You Get Everything in **GIFT #A . . .** *Plus:*

Midget cutting saw for metal or wood; 4 lengths of hook-up wire; model-builder's magnetic screwdriver and 6 HO scale figures.

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HOW TO ORDER — Send payment in full. No stamps, no C.O.D.'s. Address your order to your nearest AHC branch office. Include 25¢ extra if order is under $2.00.

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Please RUSH me the following:
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NOTE: Branch offices (Chicago and San Francisco) airmail your orders to our N. Y. headquarters for immediate shipment.

☐ Gift #A In enclose 25c and this order for $15.00 or over. ☐ Gift #B I enclose 50c and this order for $25.00 or over. ☐ 25c Send for our 32 pg. workbench edition "Guide to Model Railroading" The How-to-do-it Manual of HO

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AHC 1931 25 1956 ANNIVERSARY

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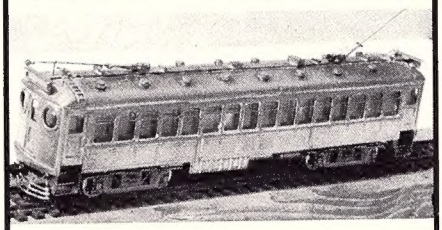

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We are pleased to announce these cars as the first of a line of famous and outstanding interurban cars in HO. Designed to please the discriminating model fan, these cars are built to our specifications by skilled craftsmen on a custom-production basis. The first run is limited. They are available through dealers or direct. For full information send 15c for 16 page catalog on Suydam buildings, HO car kits and the New Interurbans.

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SAFETY VALVE

AeroTrain Lights

In the article on Detailing Your AeroTrain (RMC Aug. '56), it was stated that there are four lights in the nose of the AeroTrain. It is my belief that the 2nd and 4th lights are not lights at all but are actually horns.

I am now 14 and have been an armchair railroader for a couple of years but have finally started my own pike. I would like to hear from other HOers.

Berne Ketchum
121 - 5th Ave. SE
Oelwein, Iowa

Spikes

I saw your item about Charles A. Penn's small spike from Arizona (RMC Aug. '56). I have a 2" spike given to me by a live steamer near Boston, who uses them with 12 lb. rail on his 3" scale 15" gauge railroad. This is the smallest spike made commercially by Bethlehem Steel Co. Other sizes increase in ½" steps to about 6"; the most common being 5½".

Does anyone know where I might get some Code 115 rail? It's no longer available here but maybe some dealer or hobbyist might have some.

D. R. Sawyer
87 Hopedale St.
Hopesdale, Mass.

Window Shade Rollers

I work in a hardware and furniture store and we always have scraps of round wooden window rollers that come in handy in model railroad work. They vary in size from 7/7" to 1¼" Any store selling window shades will have lots of them.

C. J. Stone
Wallace, Idaho

Waiting At The Station

Waiting for and failing to receive your magazine is similar to waiting for a raise—often equally frustrating. Why the delay with the last two issues.

Robert Leslie Smith
Minneapolis 19, Minn.

● *To Bob and the other subscribers whose copies were late, our apologies. The printing of RAILROAD MODEL CRAFTSMAN has been shifted from Silver Spring, Maryland, into a brand new ultra-modern plant at nearby Rockville, and there have been a number of bugs to iron out in new bindery and other equipment. In addition, it has been necessary to do the actual printing in the old plant until the giant new Half Million dollar press is set up and functioning smoothly. All in all, it's been a mess and we'd like to thank our readers for bearing with us through this "slow order" period. We appreciate it, and we think you'll agree that it was worth the trouble when you start receiving the big new 100 page RAILROAD MODEL CRAFTSMAN starting with the January 1957 issue. Ed.*

Somebody Moved The Engine

How dare you call my masterpiece a Climax (RMC Sept. '56 cover and Page 3)?

Eph. Shay

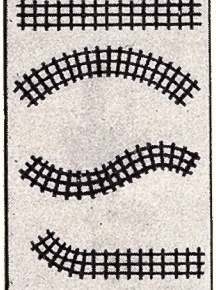
● *Aw, 'tain't our fault, Ephraim. Somebody changed engines whilst we were putting the holder in the camera. The Climax is back on page 54. Ed.*

Help He Wants

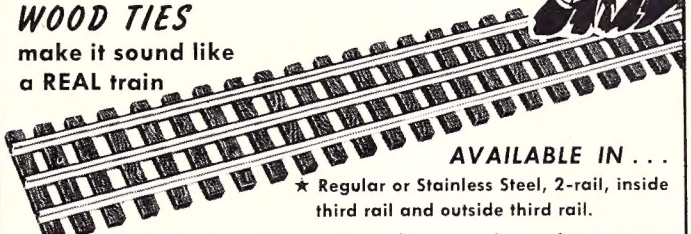
Who has pictures, roster, and data on the old Union Traction Company Of Indiana? These old timers made the rails hum and the moonlit night split open when the Marion Flyer came

SCALE & TINPLATE TRAINS
now arriving on . . .
GarGrave's UNIVERSAL FLEXIBLE TRACKS

BENDS TO ANY CURVE



WOOD TIES
make it sound like a REAL train



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GarGraves' flexible, universal, magnetic track mates with ALL 0, 027 and 072 gauge track. Constructed of steel rail, 3/16" high, with accurate scale wood ties. Patented construction eliminates spike heads, permits tinplate locos to run perfectly on scale track.

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3 great lines of HO track products:
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720 S. GRAPE STREET
MEDFORD, OREGON

S AND HO
AMERICAN FLYER HEADQUARTERS
All standard lines in stock. Send stamped envelope for Bargain list. State gauge.
DELAWARE VALLEY HOBBY SHOPS
SOUTHAMPTON 8, PA.

rammin' across the old high trestle outside of Marion.

Lee Mountain
1661 Olive Street
Bakersfield, California

● *Can anybody help reader Mountain out? Ed.*

Born Twenty Years Too Late

I am about to start construction on the 5' x 10' Michigan Western Railroad. Could you tell me where I could purchase HO outside third rail, chairs, and contacts? Also, how could I convert standard HO locomotives from two rail to outside third rail?

The reason I am building in outside third rail is that I intend to keep my layout wiring simple because I have two prospective model railroad nephews who love to "play with my trains."

Larry Zoerman
173 James St.
Holland, Michigan

● *Outside third rail in HO gauge is as dead as the nickel beer, three cent streetcar tokens, and the dodo bird. The reason that it died is that HO two rail is not at all difficult; neither is the wiring. Certainly it would be much easier to use standard HO two-rail than to go to the trouble of installing third rail—providing that you have no reason other than simplicity.*

However, if you have some electric locomotives on your roster, you should have either catenary or third rail to power them. We know of no manufacturer of HO third rail chairs but either of several advertisers can supply you with suitable brass 3/64" square bus bar for use as the third rail. Solder these to small screw heads or check with some machinist to knock you out a few hundred chairs. They will be expensive. Perhaps some old time dealer still has a supply of third rail chairs in stock. If so, he can write you directly. Ed.

Modernize Your Railroad with the NEW OK Streamliners

● These new sleek-lined HO beauties bring you swift, thrilling action and life-like realism. For the added thrill of putting your own cars together, choose complete kits (including trucks) of 9 popular body types in Shortys (60 ft.) and Scale (80 ft.). Made of durable extruded aluminum—$4.45 to $6.45. Pre-assembled OK cars are available in Shortys—$6.95 to $8.95. #2050 car lighting kit for all OK Streamliners 95¢.
See Your Hobby Dealer or Write
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MODEL RAILROAD TIMETABLE

DECEMBER 1956

Club Shows

MADISON, N. J.: Green Hill Railroad, 125 Green Street, O gauge. Dec. 1st, 2-5 PM, benefit All Soul's Hospital. Dec. 8th, 2-5 PM, benefit Morristown Memorial Hospital. Madison Model Railroad Club, 3rd Annual Christmas Program. Theodore Failmezger, M.D., publicity.

BALTIMORE, MD.: Baltimore Society of Model Engineers Inc. Annual Christmas Model Show, 225 West Saratoga St. Dec. 1-2, 8-9, 15-16, 22-23, 29-30; 2-9 PM. Continuous operation HO-O layouts. Exhibits, trolleys, RDC cars, trains, etc. E. G. Hooper, Publicity Chairman.

PHILADELPHIA, PA.: Germantown HO Engineers, Dec. 1-2, 8-9; 2-8 PM. Annual Show, open to all. Basement of Pennsylvania Railroad signal tower, Evergreen Avenue at Shawnee Street. Admission Free. Frank E. Weber, Secretary.

NEWARK, N. J., Newark-Elizabeth Model RR Club, 325 - 16th St., Annual Show of O gauge Layout & equip. Fridays Nov. 23, 30, Dec. 7: 7:30-10 PM. Saturdays Nov. 24, Dec. 1, 8: 2:30-5:30, 7:30-10 PM. Sundays Nov. 25, Dec. 2, 9: same hours as Saturdays. Admission: Adults 40c, Children 25c. Charles Kaercher, Pres.

YORK, PA., 12th Annual Show, Miniature RR. Club of York. Nov. 24-25, Dec. 1-2, 8-9, 15-16. Show time 7-10 PM Saturdays, 2-10PM Sundays. No admission charge. Show in club's new bldg. 381 Wheatfield Ave., south of 900 Block E. Princess St.

New Clubs

RANTOUL, ILL.: Larry Klugman, 700 Eden Park Drive, age 14, wants to start a Lionel O gauge club.

Catalogs

ALL-NATION, O gauge. 8½x11, 92 pages, good paper, profusely illustrated. This is the best thing to happen to O gauge since the Lionel 700 Hudson. Lists every single item that is available and suitable for use on the scale (or tinplate) O gauge layout. We were amazed at some of the items ourselves. Contains 2 50c refund coupons. Price $1.00. Catalog No. 56C, All-Nation Hobby Shop, 182 North LaSalle St., Chicago 1, Illinois.

Club Secretaries

Items about your club are welcome but must be received in time. Deadline for January issue insertions, November 10th. Deadline for February issue insertions, December 10th. Items must be at Ramsey, N. J. on those dates. Send to: Model RR Timetable, Railroad Model Craftsman, Ramsey, N. J.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF RAILROAD MODEL CRAFTSMAN, published monthly at Rockville, Maryland, for December, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Charles A. Penn, Franklin Lakes, N. J.; Editor, Charles A. Penn, Franklin Lakes, N. J.; Managing editor, Harold H. Carstens, West Englewood, N. J.; Business manager, none.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owing or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Model Craftsman Publishing Corp., Ramsey, New Jersey; Charles A. Penn, Franklin Lakes, N. J.

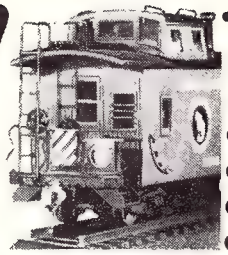
3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

(Signed) Harold H. Carstens, Managing Editor
Sworn to and subscribed before me this 24th day of September, 1956.
(Signed) C. Fred Semken
Notary Public of N. J.
(My commission expires February 6, 1960)
[Seal]

SILVER STREAK



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Two great kits . . .
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Includes the NEW Tru-Scale trucks . . . safety card with emblem . . . bottle of matching paint for touch-up . . . sides are lettered and completely finished. A model builder's delight.
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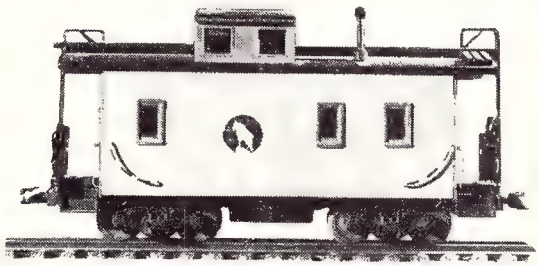

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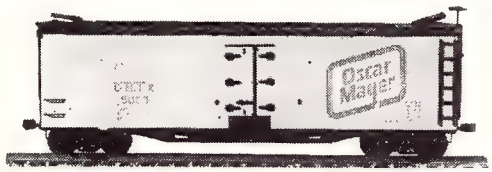

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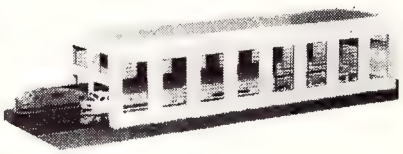
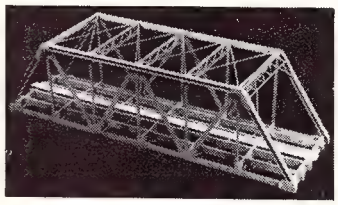
Our aim has always been to produce kits for the particular modeler who insists upon quality at a reasonable cost. Our kits are adapted from prototype buildings or plans, and a great deal of thought goes into the selection of designs suitable in every respect for reproduction as "HO" models. You'll find it easy to recreate all the smoky atmosphere and charm of your favorite stretch of railroad when you use realistic Tru-Scale (formerly Ayres) Structures.

NEW DIESEL HOUSE. Walls pebbled to resemble poured concrete. Windows printed on heavy gauge acetate. Steps, platforms and pit details are included in kit. 16½" long by 6½" wide.
Kit No. 522 .....**$4.95**





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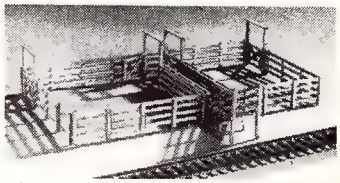

CATTLE LOADING PENS. Modeled from loading pens used on the Santa Fe and throughout the cattle states.
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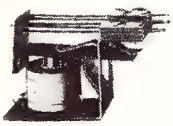

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See the NEW A.T.C. ad on page 14

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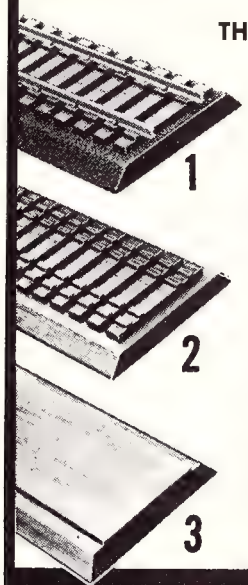
The COMPLETE LINE of quality, life-like miniature reproductions of: Trees, Hedges, Plants, Bushes, Climbers, Ornamental Flowers, Imitation Grass, and earth, Imported Norwegian Liken . . . Individually boxed. Also Landscape Kits and Landscape Background Scenes.

"MIGHTY MITE" — FULL POWERED . . . yet so tiny that it can be table-top mounted on 2" HO centers (either right or left side of track). So LOW . . . that it gives ample clearance for all types of equipment. Has amazing prototype appearance. Concealed mounting also easily accomplished. Completely assembled — factory tested — fully guaranteed. Draws 1 amp. momentary, 12-15 volts D.C. or 15-24 volts A.C.

THE BIG 3 IN PRECISION ENGINEERED HO TRACKAGE



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Prototype realism — the only complete "HO" track. Ballasted embankment, stained ties, brass rail spiked in place, rail joiners. READY for immediate assembly. Also complete line of mounted turnouts, crossovers, and crossings.

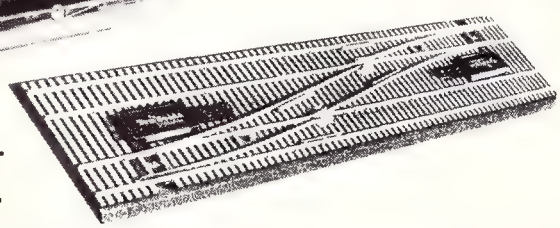
SELF-GAUGING Roadbed

Silent, accurately milled, realistic. A tie plate on every tie, grooved for exact rail gauge. Ends all guesswork.

PLAIN Roadbed

A perfect subbase for plastic or fiber tie-strip track. Adds realism. Eliminates "kinky" trackwork. Guarantees smooth operation.

***NEW!* REMOTE-CONTROL Mounted Crossover**



Stained, ballasted — incorporating two "mighty-Mike" switch motors. FULLY WIRED with binding posts — READY TO OPERATE. Quick and simple to install. Fool-proof — true-to-prototype. Continuous metal rail — no electrical dead spots. Made in 4's & 6's, R or L **$12.95**

"SHOW-OFF" TRACK Perfect for mantelpiece, office desk, trophy cases, etc. Solid mahogany base. Clear lacquer finish. Polished engraving plate. Nickel-silver rail on TRU-SCALE stained and ballasted "HO" roadbed. Two sizes: 15" — $6.95; 30" — $8.95.

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- Famous Kester TV-Radio Resin Core Solder
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"You'll like the way it HANDLES!" COMBINES ALL THE ADVANTAGES OF THE SOLDER GUN AND THE CONVENTIONAL SOLDERING IRON. No waiting — press trigger and solder at once. Ideal tool for shop or home use. Takes only half the space of transformer guns in tool boxes.

120 Volts AC-DC ¼" Tip (also available ⅛" Tip)

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HEAT RIGHT IN TIP —new unique element design
LONGER, THINNER REACH —EFFECTIVE SPOTLITE

HEXACON ELECTRIC COMPANY
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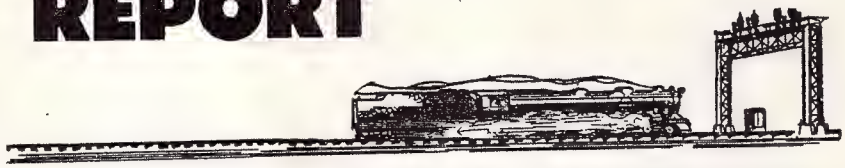
DISPATCHER'S REPORT



NEWS ABOUT MODEL RAILROADING

WHERE do we go from here? At the Twin Cities National Convention of the **National Model Railroad Association,** the move to make the X2F coupler, (generally called the NMRA coupler) the standard coupler of the NMRA was turned down. It won't make the ballot coming up and as a result, cannot be voted standard by the NMRA. While many fans do like the X2F design, there are also many who feel that a better coupler is either here or to come in the future.

But one thing is certain. If the scale model railroad fraternity has turned down the X2F design, the HO tinplate fan certainly owes **Paul Mallory** and his coupler committee staff a vote of thanks. All of the HO train sets on the market this year are X2F equipped. For the beginner who doesn't as yet know how to build his own, it's a blessing.

We checked with various hobby shops in different sections of the country and found tremendous differences in coupler preference among the model railroad craftsmen. Most stores still outsell Kadee and Mantua couplers over the X2F. Also in demand are Baker, Japanese, AAR automatics and AAR dummy couplers.

All you O gaugers should take a look at two new **Lionel** items that are naturals for scale conversion. First is a center cab diesel switcher and the second, the Lionel Budd car. The RDC is short but beautifully detailed and we think some builders will weld two bodies together . . . The Lionel F-M diesel is available in blue and yellow Jersey Central garb. Since so many O gaugers are in Jersey Central territory, we'll expect to see a batch of F-M conversions, following the article in RMC Jan. '56 . . . Sorely needed in O gauge

Louis Hertz Says:

TAKE MY NEW HOW-WHAT-WHERE BOOK ON MODEL TRAINS 10 DAYS **FREE!**

COLLECTING MODEL TRAINS

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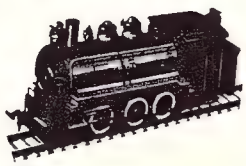

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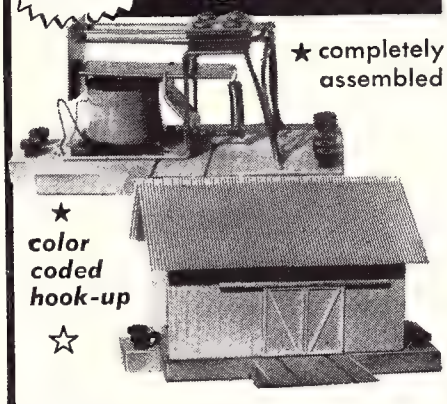

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What's your reaction to the **Tyco** factory-molded layout? Just lay the **Snap Track** in place, hook up a rectifier and run your trains . . . In looking through the very first issue of **Model Craftsman,** published back in March 1933, we couldn't help reflect that the very early railroad modelers had things really tough and yet they enjoyed every minute of it.

Out Of The Shop

New Ken Kidder **HO McKeen Car,** Japanese import a beautiful looking photoengraved brass model. Had headlight, working flywheel . . . Kidder also accepts orders for custom built trolleys, made in Japan. Its a good deal for O gauge traction fans, no two of whom ever liked the same car (There just isn't anything like a PSNJ 3500 with arc headlights and the old maroon color scheme) . . .

Have you seen that **Athearn $6.95 F-7** operate yet? Has a surprisingly good tractive effort . . . **Hobbytown of Boston** has their new Budd RDC car. Imported Japanese body with American power gives it looks with good running characteristics. Its full length precludes using it on sharp radii curves but the difference in length over the one-window-short Athearn model is noticeable . . . In case they sneaked by you, let your dealer show you the latest **Central Valley** car kits, all old timers . . . **Pacific Fast Mail's** latest HO import sets a high standard to beat. The price is not low but the quality is there. This is a 2-8-0 and the brass used is heavy gauge . . . **Suydam** has a Pacific Electric 1250 series car in HO. Built up brass body, operating poles. Available powered or trailer. This is one of the big red cars used for so many years on the West Coast . . . Rivarossi trains now available in Canada from **James Parker** of Toronto . . .

Tyco has a new 75c plastic simulated stone arch bridge . . . Double Header power pack by America's Hobby Center a good value . . . 100 HO scale plastic figures from **Hawk** for 98c. You paint 'em . . . **Vollmer** buildings now available here through **Charles Merzbach & Co.** . . . What's happening to HO steam motive power? First **English** dropped his Pacific and Mikado and now **Bowser** is going out of business. Maybe the pendulum is swinging back, making room for brass locos again . . .

Biggest news in O gauge is the giant new **All-Nation** catalog. Scheduled as an 88 pager, there were so many new items to include that they had to add another 4 page insert bringing the total up to 92. We've just received the advance proofs and this new catalog should certainly prove to be the biggest thing for O gauge in many years. The cover is a big diesel front in two colors. Price is $1 with two 50c refund coupons.

Model Engineering Works has purchased all tools, dies, and inventory of the HO Brass Betsy locomotive, formerly manufactured by Great Western. MEW will reengineer the kit, an old time 2-8-0, bringing it up to date. Meanwhile parts will be offered through hobby shops or direct from mfr. . . . **Varianto** is a new German toy truck that operates from batteries, following a guide wire that includes switches and crossings. Suitable for O gauge, the wire is almost invisible.

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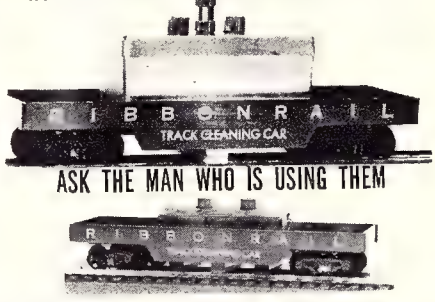

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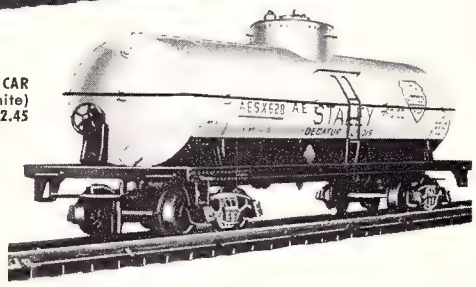

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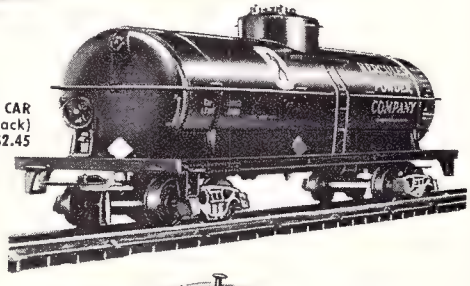

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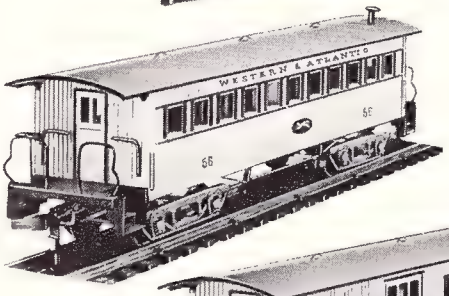

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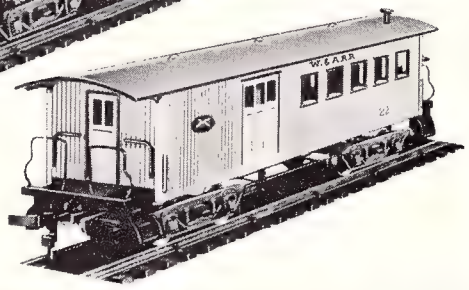

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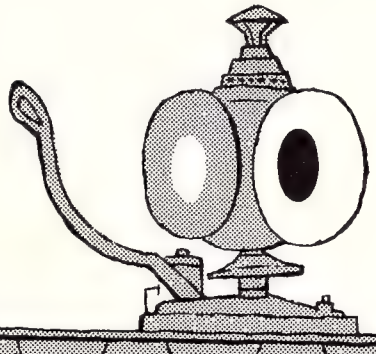

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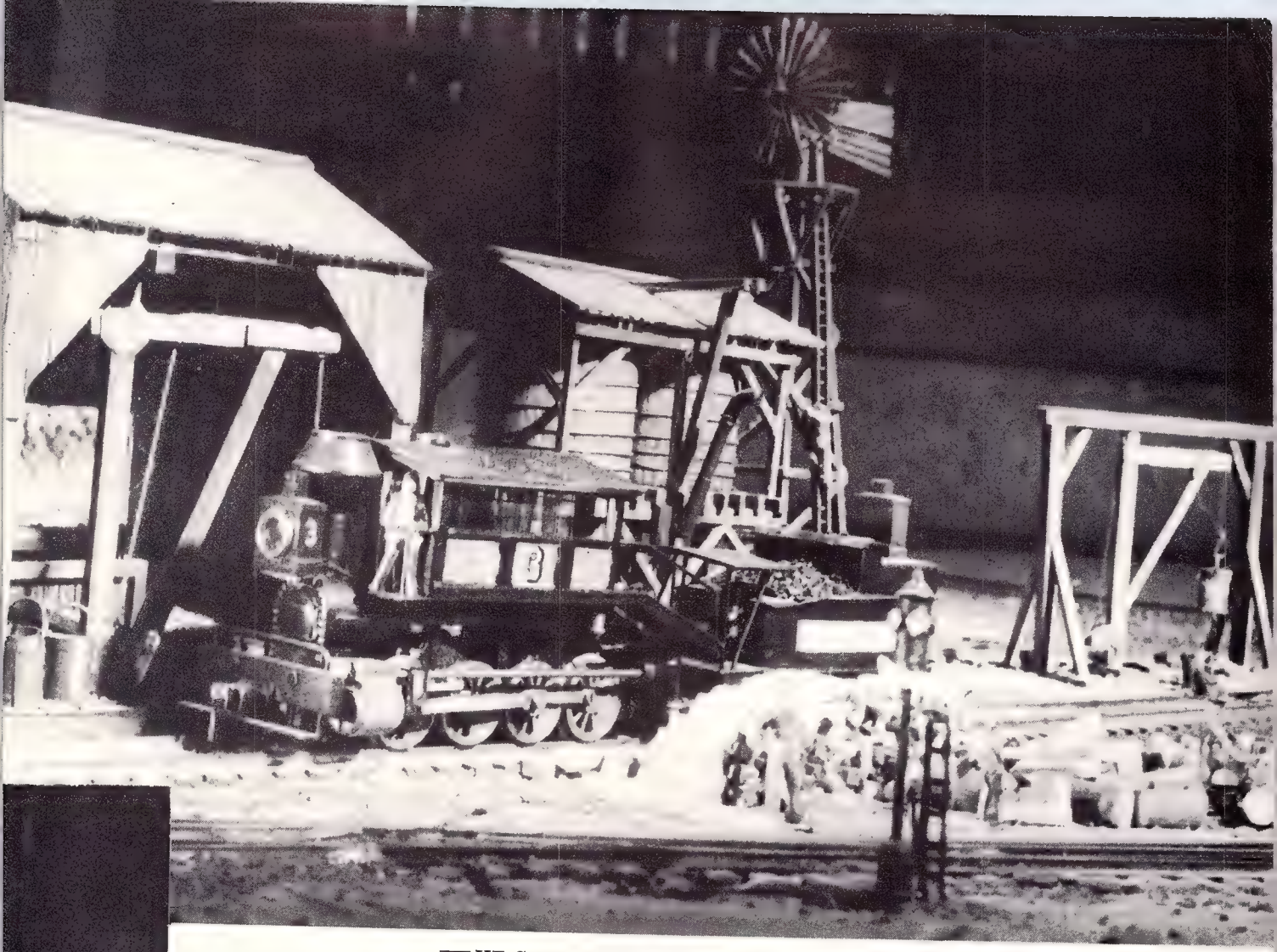
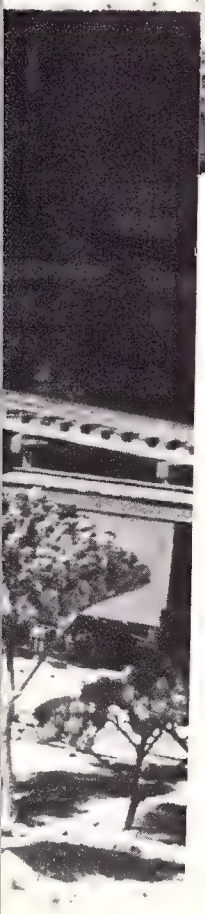
SEAFORD, OYSTER BAY & ORIENT RAILROAD

as builded by Robert A. Michenfelder

The Winan's camelback was in the works when Bill Schopp's article appeared in RMC April '55. The photo on page 13 of that issue suggested this pose. Cylinder saddle and drivers are Model Die Casting.

The Davis Mogul was built from measurements taken from the original locomotive at the B&O Museum at Baltimore. It was necessary to have the drivers on closer spacing, and to blind the center driver, so as to get around some of the S. O. B. & O.'s 12 inch radius curves.





THE Seaford, Oyster Bay & Orient Railroad is one of those layouts that will never be finished and is already being rebuilt in spots. It might serve as an object lesson in how not to build a railroad, starting as it did with a 3'x4' test track that served as a proving ground for such things as track laying, switchbuilding, landscaping, and mistake making. This should have been scrapped, but Heaven forbid that it be thrown away, so it became the nucleus for the present pike. The resulting headaches can easily be imagined but we get a big kick out of it anyway.

The S. O. B. & O. is a post Civil War Period pike. With the exception of two plastic Advance Molding coaches from a General kit, all equipment is scratch built. The layout itself is built on an 8' x 12' platform slung from the garage roof on cables. Scenic work is nowhere near completion but the photographs will serve to show what has been accomplished since last year.

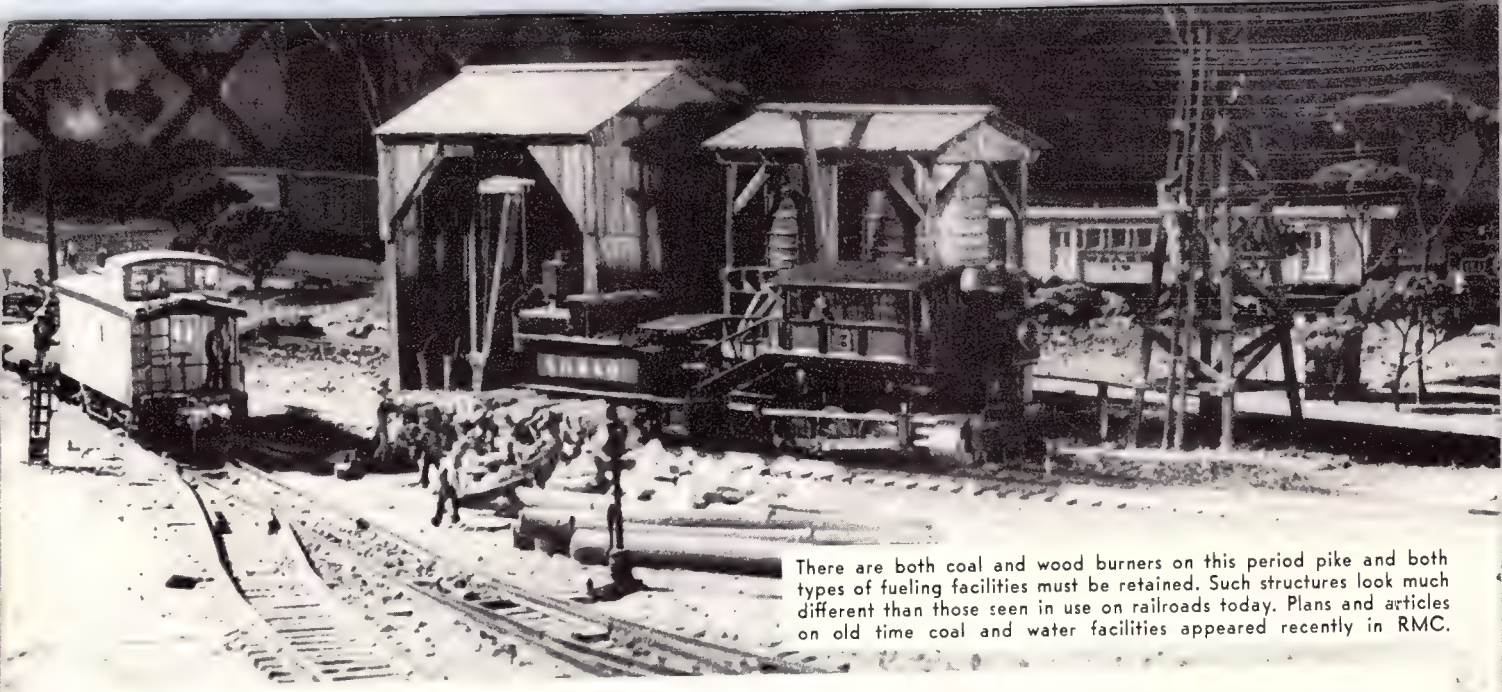
The motive power generally follows Baltimore & Ohio prototype and the B&O initials even make up part of the S. O. B. & O.'s initials. Measurements for much of the equipment were taken from equipment on display at the Baltimore & Ohio Railroad Transportation Museum at Baltimore. Commercial wheel and cylinder assemblies were used but almost everything else is built up from tin plate, sheet brass, and assorted special, milled brass shapes. Sand and steam domes, valves, etc., were turned from brass rod. Tender drives are used because none of these locomotives will accommodate a DC-60 motor, or any other readily available motor.

All rolling stock runs on Central Valley arch bar or Fox 30 ton trucks. Construction again is all scratch work, from strip wood or card stock. I have in mind several B&O pot hoppers but these will have to be of metal. (Since this was written, plans for the B&O pot hoppers appeared in RMC, 'Oct. '56 issue. Ed.)

The platform on which the layout was built is a wooden grid similar to old time car practice, with rods and queenposts to prevent sagging. This is then slung from the garage ceiling on aircraft cable and operated by a wnich made up from odds and ends powered with a quarter horse motor. Visitors, notably small fry, are more often intrigued by the majestic rise and fall of this half ton of wood, plaster and wire, than by the layout itself.

In the track department, we've tried everything from tie strip and steel rail, to prefab, and even Midlin. After using this stuff I can see why it's no longer on the market. With some Pliobond holding the rails down, it has proven remarkably quiet in operation and has given good service.

Switches are both commercial and



There are both coal and wood burners on this period pike and both types of fueling facilities must be retained. Such structures look much different than those seen in use on railroads today. Plans and articles on old time coal and water facilities appeared recently in RMC.

scratch built, and there are both stub and point types in use. Operation is by rod and crank. Switch stands were made up from Cerro-Safe castings and assorted tubing. Some are lighted, although the addition of a grain of wheat bulb in the head does make them slightly over scale.

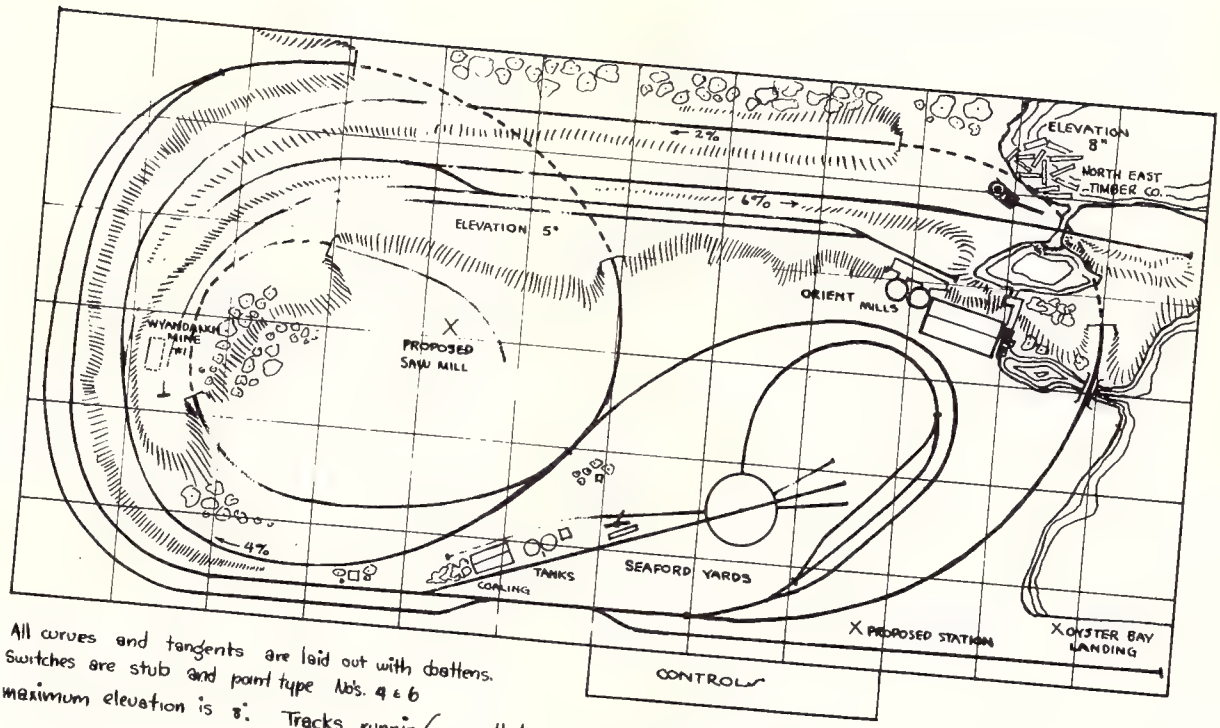
Of all the facilities shown, the water powered flour mill was suggested by one still in use at Sturbridge, Mass. It will be joined soon by a saw mill patterned after one used at the same location. This will have to be steam powered since there is no more available waterside real estate. The saw mill will give the logs hauled up from the Northeast Timber Company a place to wind up.

All of the operating devices, mills, signal, and turntable take power from a jack shaft running under the platform and is driven by a tired 78 RPM geared phono motor. Where intermittent power is required, friction clutches or slipping belts are used. These are nothing more than nylon or cotton thread and work nicely.

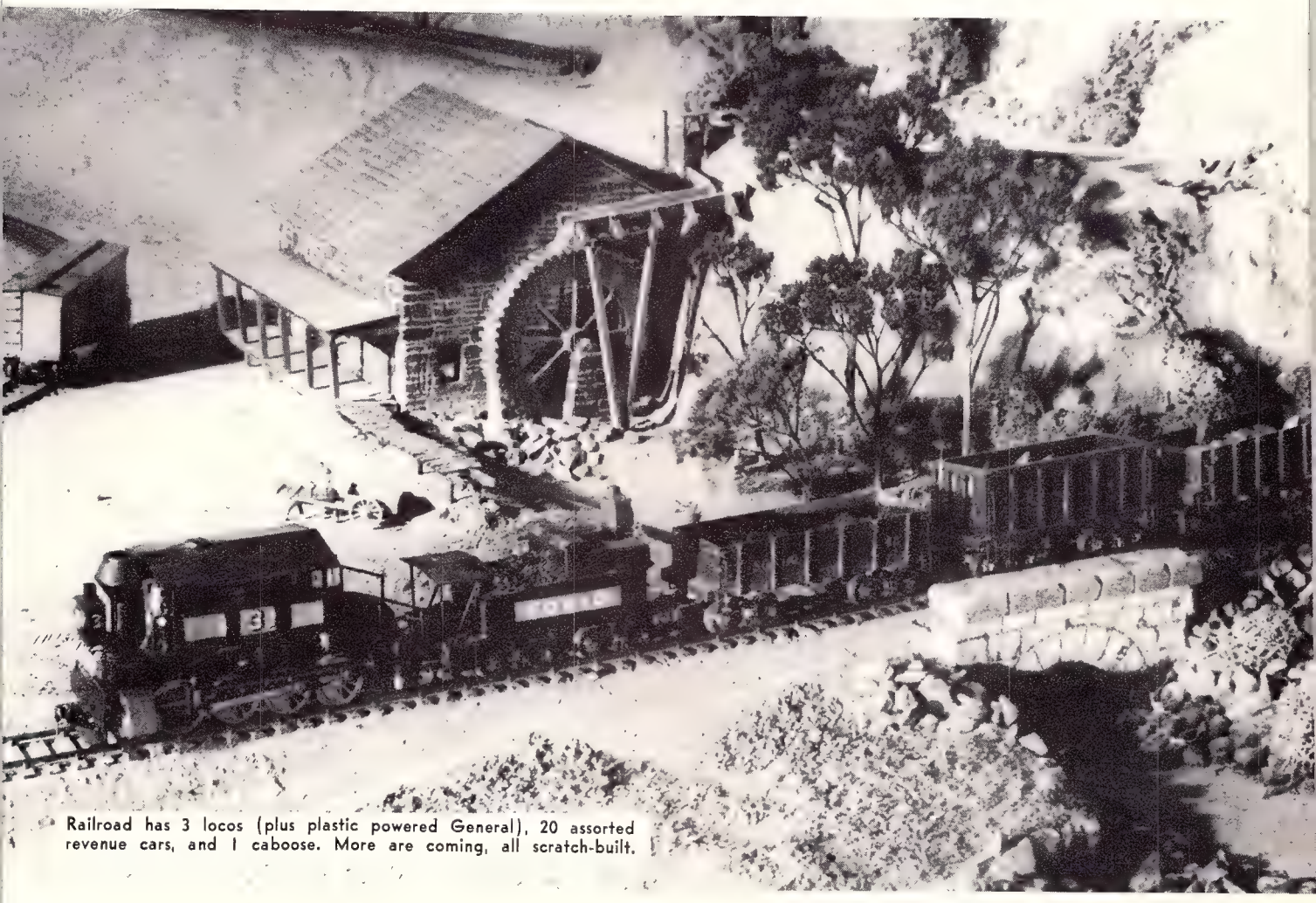
Future plans call for a dock and sternwheeler, saw mill, operating tipple, three stall engine house, and freight and passenger depots.

I find a period pike more satisfying and considerably more rewarding from a modeling standpoint than its more modern counterpart. Oddly enough, I find that visitors who have no interest in railroading, find the old brass bound kettles and the tiny ancient wooden cars most appealing. I only hope that the kit manufacturers don't discover this mine of possibility. Something should be left for the scratch builder.

Part of the road's revenue comes from hauling logs down from the lake. Here heavy logs are loaded from the lake onto log cars with the help of a tiny old donkey steam engine. Logs are "floating." Old No. 3 drifts across the mill bridge with a string of hopper cars. The mill is powered by jackshaft running under the framework.



All curves and tangents are laid out with battens. Switches are stub and point type Nos. 4 & 6 maximum elevation is 8". Tracks running parallel are separated by grade, contour and planting.



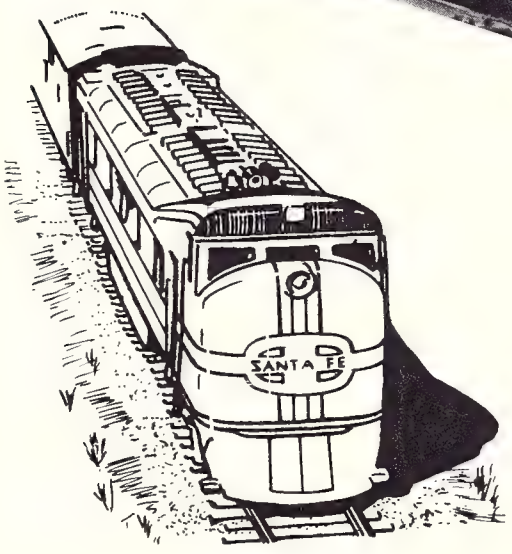
Railroad has 3 locos (plus plastic powered General), 20 assorted revenue cars, and 1 caboose. More are coming, all scratch-built.

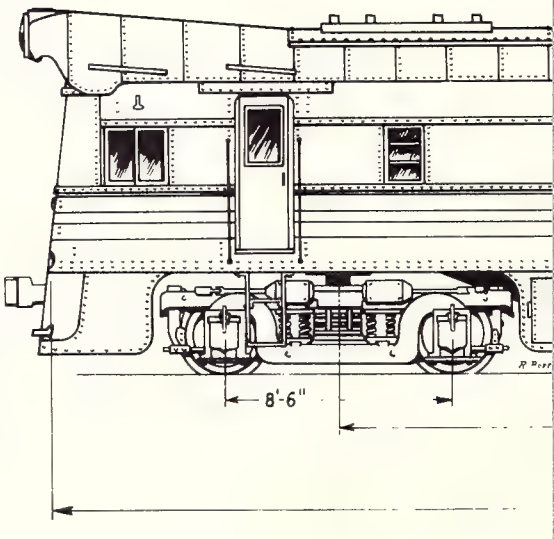
Drawn Especially For
RAILROAD MODEL CRAFTSMAN

By Russ Porter

Here's the engine that created quite a stir in its day. From the exterior, the transition from the doodle-buggish gas-electric car into a sleek powerful diesel locomotive is still very obvious.

photo Santa Fe RR.





DATA RELATING TO PLAN DRAWING

Only one unit shown as both are identical.

4 300-gal. water tanks (two on each side of center sill as indicated by dotted lines) have a common water filling manifold located in roof in center of loco, thus enabling tanks to be filled from a conventional water tank.

2 400-gal. oil tanks (one on each side of loco) which can be filled from either side.

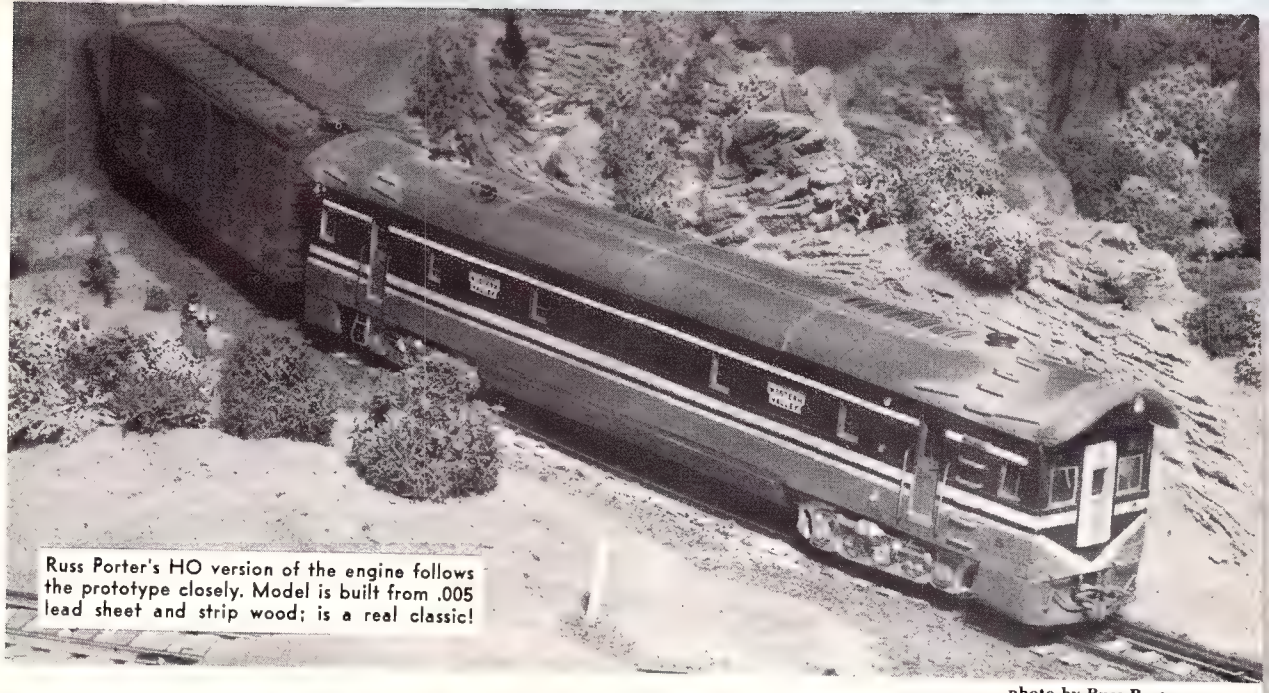
Small stacks on roof are vents for the two 900 hp. Winton V-type, 12 cyl., 2 cy., oil engines.

Air is drawn into the engine compartment thru grilled openings at each end of loco and forced by means of large engine driven fans thru the radiators. After passing thru the radiators, the air is sucked out thru the engine vents on the roof.

Cor-Ten rolled plates, riveted and welded together, form the superstructure. The small light, under the divided window at each end, is used when backing up. The three lights on the side of the loco near the engineer's cab help to illuminate the nearby area at night when entering or leaving the loco.

Tractive force: Starting—129,200
Continuous—37,600

Maximum speed—98 mph.



Russ Porter's HO version of the engine follows the prototype closely. Model is built from .005 lead sheet and strip wood; is a real classic!

photo by Russ Porter

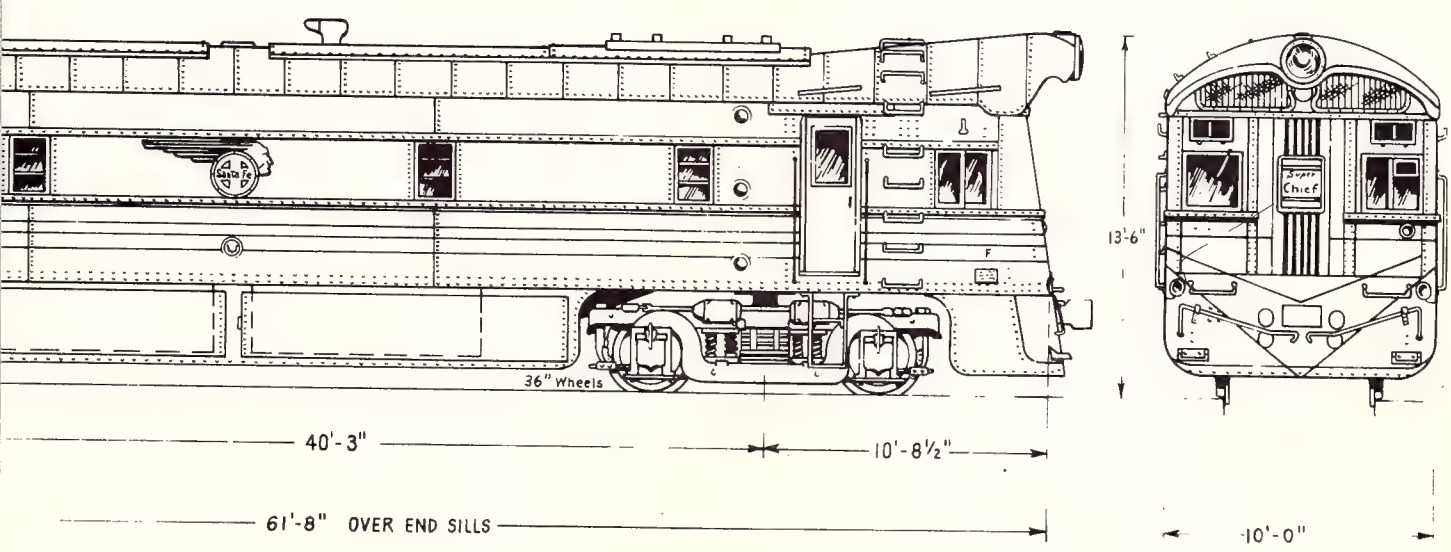
FIRST MULTIPLE UNIT PASSENGER DIESEL—1935

BUILT in 1935 by Electro-Motive Corp. & St. Louis Car Co. for the Santa Fe RR., this locomotive became famous for two reasons:

1—First multiple unit to be placed in passenger service, thus becoming the forerunner of the swift diesel powered passenger train of today.

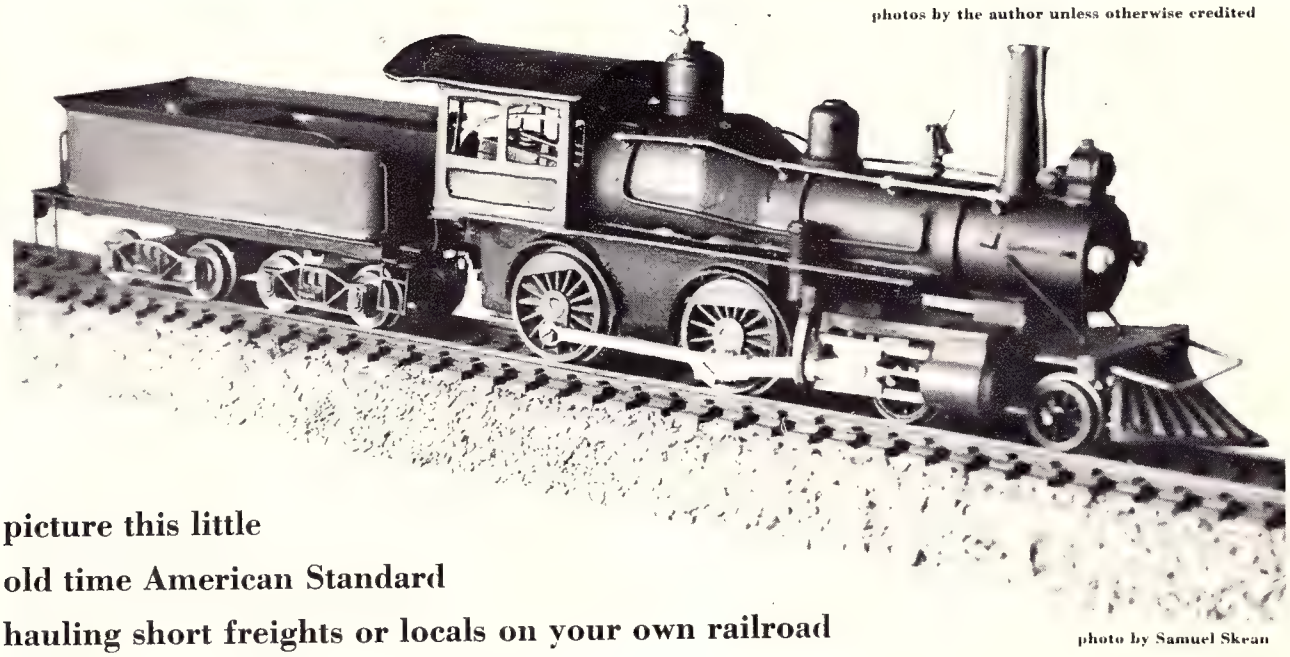
2—Late in 1935, this locomotive made a record run from Los Angeles, Cal., to Chicago, Ill., hauling a special nine car train of conventional heavy steel cars weighing over 720 tons. The train completed this run of 2,228 miles in 39 hr., 34 min., including 11 scheduled stops. Over 15 hrs. were cut from the time of the Santa Fe's "Chief," the fastest regular train between Los Angeles and Chicago, while 5 hr., 20 min. was cut from the record of 44 hr., 54 min., made between the same cities by Death Valley Scotty's famous special train in 1905, a record, which had stood unchallenged for nearly 30 years.

The locomotive as originally built, consisted of two identical sections, each completely equipped with operator's cabs, an advantage not enjoyed by the present day B unit diesel. As the engine crew and maintenance workers became familiar with the loco, various body changes had to happen. First, the skirts covering the truck side frames were eliminated to facilitate servicing. (See loco plan drawing). Second, after numerous close calls with trucks and cars at crossings, while clipping along at 60 mph., it was decided to move the cab of the first unit up in the air so that the engine crew would have a better chance to avoid injury in a collision. (See small ink sketch). In 1937 the first of the sloping nose diesels replaced the above loco in hauling the Super Chief. Consequently, the first unit, which now resembled a caterpillar, was assigned to secondary and local trains. The second unit, with its roof cut off blunt at each end and equipped with foot boards, was put into switching service in the Chicago ATSF yards.



by Bill Schopp

photos by the author unless otherwise credited



picture this little
old time American Standard
hauling short freights or locals on your own railroad

photo by Samuel Skean

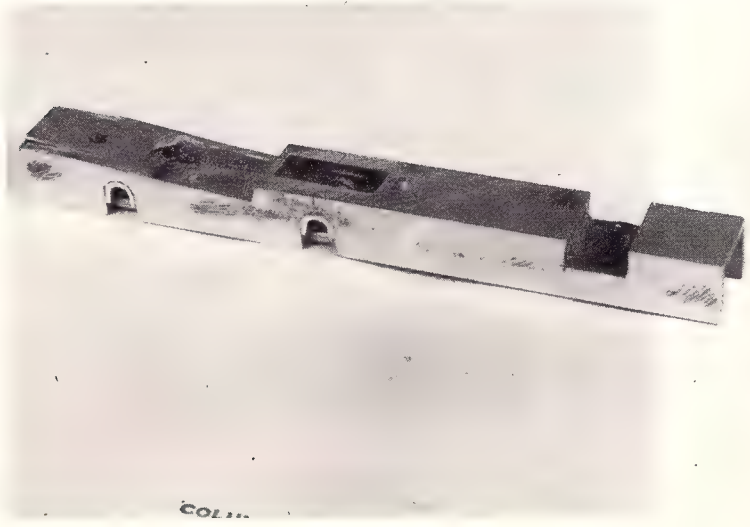
BEGINNER'S 4-4-0

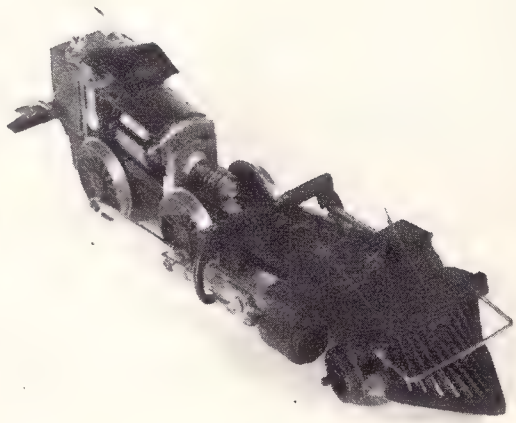
MANY years ago, I built for my then-railroad, the Moonlight & Violins, a small 4-4-0. That was back in 1939 and I have met many people who built that engine. The 4-4-0 is still, in theory at least, the ideal locomotive for the beginner who needs a first locomotive. The 4-4-0 is equally at home at the head end of a short freight or a two or three car passenger local. And the 4-4-0 has often been called upon to shove cars around a yard.

There are several 4-4-0 type locomotive kits on the market, in both HO and O gauge. In HO, all of the 4-4-0 types are of the 1860-1880 period which is just a trifle too old for present day operation. Mantua's Belle could of course be modernized with the fittings used for the Mantua Mogul but it occurred to me that perhaps there are many readers who have never built a locomotive from scratch and don't know the thrill that comes from saying, "That locomotive is all my own work and was built from scratch." All this started me on my latest American

4-4-0 frame cut from channel brass as described by the author. Front end must still be cut to clear lead truck but bearings and floor are already in place. Several machinists will make your frame for you.

This is the completed 4-4-0 frame ready for installation of the superstructure. Boiler braces are soldered to the pilot deck, not to the smokebox. Scotch electrical tape over brushes stops shorts.





type, and by following the step by step instructions to the letter, I am certain that anyone could build this locomotive.

First, the frame. For details on frame construction I refer you to my article on the subject in the November 1955 RMC. I used ½" x ⅜" x 1/16" channel brass which you can obtain from Special Shapes, (last price I had was 11c per inch plus postage) Milled Shapes or from George Stock. The 3/16" diameter axle holes opened out at the bottom are actually made to receive No. 6301 Mantua bearings—which in turn usually have to be filed at the sides on the ends so they do not pinch down on the axles. The pair of No. 6301 bearings are soldered in place, then the retainer plate is made from 1/16" thick brass and screwed in place (on this engine the tapped hole in top of the frame to hold on the back of the retainer plate will be temporary). Then the gear clearance holes in retainer and top are both cut out at the same time with a jewelers' saw blade. If the front bearing has been well soldered in, it will then be cut into three parts, the center one dropping out with the blanks from the clearance slots, the two end ones staying in place and becoming in effect a pair of Mantua No. 6302 bearings and saving you 15c and a lot of work in getting them lined up in a home-made frame.

Next you must get your 63" drivers, with worm and gear. I picked a set from my box of odd wheels and have regretted it since because they proved not to be concentric, giving the engine a very bad hop—and after photographing them I have had to replace them with Mantua "General" drivers, even though these have a somewhat older style of counterweight than I prescribe in the drawing. Next get a Pittman DC-60 motor and figure how much of a sloping recess you must make in the top of the frame to receive this motor and let your worm mesh properly with the gear on your front drivers. Determine this slope experimentally. Make a cut across the top of the frame with a jewelers' saw just behind the gear slot. Then grab the frame in a vise, holding it at an angle so that when you file the recess, the jaws of the vise will act as a stop. Keep increasing the angle until the worm will mesh with the gear. By all means the top of the channel must be broken out to permit the curved bottom pole-piece of the motor to sit down properly. The motor will rest on the flat back part.

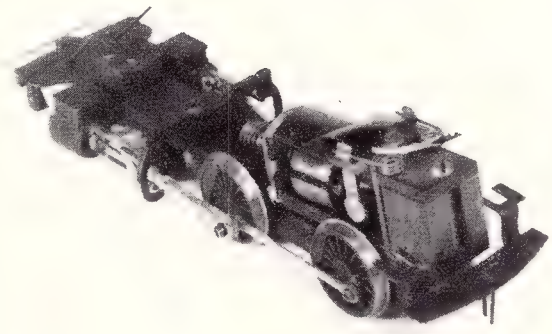
To attach the motor is another problem. I found that the usual center mounting hole of the DC-60 came right above the rear axle. So I took the armature out of the motor and drilled No. 50 and tapped 2-56 two new mounting holes, one back as far as possible without hitting the magnet, and one well forward into the bottom of the curved pole-piece. (Pull off beards of steel chips from magnet with your fingers). A No. 42 hole is made back of the axle for a 2-56 screw which holds down the rear of the motor, while a similar hole must be made in the "floor" soldered into the frame to hold down the front of the motor. Without this front screw, the motor will have a tendency to rise up on a heavy pull as the worm tries to climb out of mesh with the gear. This floor of ⅜" x 1/16" brass is also necessary to attach the rear end of the retainer plate since the motor opening has taken away the temporary top hole. It should run from just in front of the rear bearing to the back end of the gear clearance slot, and should be just above the bottom of the bearings and just below their tops, to allow for a filet of solder in both places. It may be advisable to solder a block of brass to the rear of the frame as shown in the drawing, to support the extreme back end of the motor. This is then also filed to the same slope. I show it slotted No. 42 at the rear to receive the end of the long 2-56 motor assembly screw and help hold the motor steady.

Once you have solved the motor mounting problem and have gotten it to turn the front drivers, remove the motor and make up the side rods. Use brass or even better 1/32" German Silver (obtainable from Schrader Instrument Co., Independence, Iowa, among other places.) The rods have No. 51 or No. 50 holes spotted 1¼" apart as per plan. Attach the rods to the wheels, using short crank pin screws of any make (I like Varney's for rods this thick) in all wheels, although the front screws will later be replaced with long crankpin screws (Mantua, etc.). Then get the four wheels working freely *with* rods. The slots may be lengthened a little with a mouse-tail file on the ungeared driver only, although this expedient is pretty dangerous with a four drivered engine.

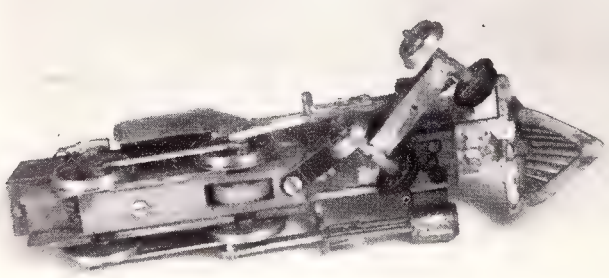
Cut the slot in the front of the frame to receive the Model Die Casting box-top cylinders. Don't pay too much attention to the ⅛" depth of this slot I show on the plan, but get the slot deep enough so that the piston holes are on the same line as the centers of the driver axles. Then floor the slot with a piece of channel cut to size and soldered in. The cylinders are permanently held in place by a pair of 0-80 flat head screws running up through the pair of No. 52 holes shown (should be countersunk) into No. 56, tapped 0-80 holes in cylinders. You can remove the ridge down the front and back of the cylinder block at the bottom so they will fit in the slot more snugly. Remove the cylinders and cut out the sides of the frame in front of and behind the slot.

Complete the cylinder assembly by adding guides and getting crossheads to work freely in them. MDC main rods may also be used, but chances are you will have to redrill and retap the front hole, where they attach to the crossheads, in a new location. Try to make the main-rods long enough so that when the crankpins are at their most forward position, the crossheads

Chassis rear view shows twin pins used for attaching engine to tender, as well as yokes used to fasten cab to the rear of chassis. Oldtime design is still modern enough for use on pikes operating in "1956."



Mounting of front truck on yoke permits easy access to front mounting screw and twin cylinder mounting screws. 4-4-0 has a rather large swing on front of engine, requiring large coupler loop on sharp curves.



Underside view of boiler, with entire piece still covered with blue Rossmoyne layout dye. Cut out for motor has already been made, which also permits easy access to sand dome mounting screw inside boiler.

Boiler may be temporarily mounted by the front screw only to adjust height and see that the boiler will lay level. With temporary tender, engine is now in operating condition. What follows is all for looks.

are within a sixteenth of an inch of the cylinders. This may require drilling the piston holes right on through the front of the cylinder. On occasion, to avoid the troubles caused by a piston that keeps coming out of the cylinder and jamming, and in order to avoid making a new mainrod, I have had to drill and push in Varney No. 1672 bushings for the pistons, in effect lengthening the cylinders. Be sure the mechanism rolls freely without the motor but with this stuff in place. You can attach the MDC yoke at this point, but remove it temporarily after you have drilled and tapped its mounting hole. Mount the motor and check to be sure the mechanism runs freely.

The lead truck is cut from ⅛" brass with a No. 56, tapped 0-80 hole in its center. To the ends of this are soldered pieces of ⅛" o.d. tubing ½" long which will be bearings for the axles. My lead truck wheels are Kemtron WA-31 spoked wheels, although I did replace the treads on the insulated side with plastic treads cut from other wheels to minimize short circuits. The lead truck is not attached via a screw and slot as on most four wheel pony truck locos, but is attached by a yoke which runs back to the front retainer plate screw of the engine. This yoke, shaped from .010" brass has a hole at its front to clear a short crank-pin screw (which will have to have its head filed down to clear underside of frame). The hole at the rear should clear the 2-56 screw used to attach the retainer. I utilized a flat-head screw here and found that the hole, perhaps enlarged a little, would let the yoke swing nicely without the need for a special shouldered screw. This yoke can be bent a little to keep the lead truck on the track, but not enough to raise the front drivers. The short extension ahead of the front hole is important in holding down the front of the truck.

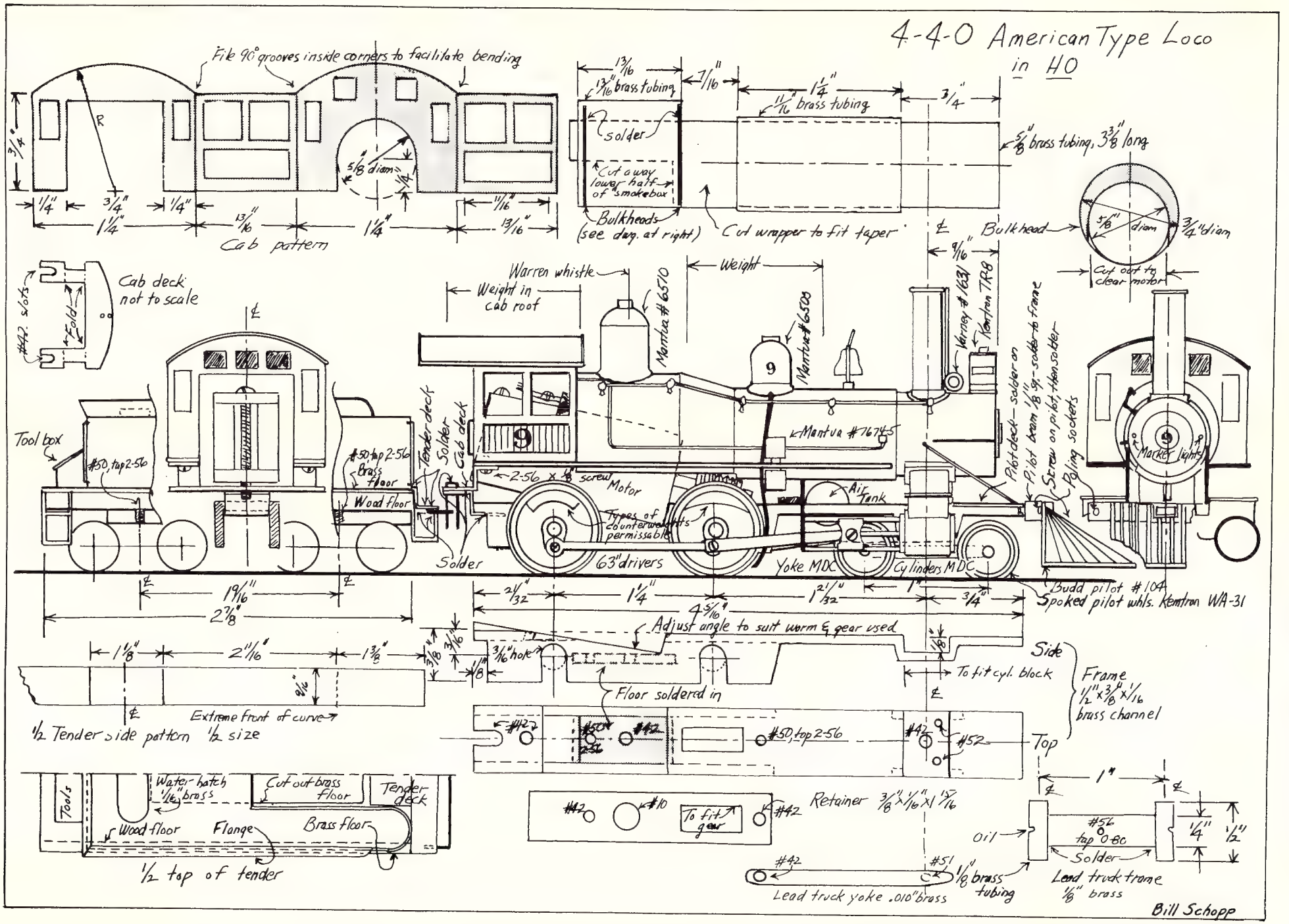
You should now be about ready to make the boiler, which is based on various diameters of brass tubing obtainable at brass supply houses or from Special Shapes. This tubing has .030" walls and the sizes telescope into each other very nicely. The ⅝" diameter smokebox actually extends all the way back to the cab, forming the backbone of the whole boiler. Over this is slipped a piece of $1\frac{1}{16}$" tubing for the barrel of the boiler. The firebox is $1\frac{3}{16}$" tubing (*I* actually used ⅞" but found it made the firebox too high). This is not on the same center as the rest of the boiler, but has all the bulge on top. To maintain this spacing, I made two bulkheads as shown in the extreme upper right of the drawing. These I cut from .020" brass with a jewelers' saw and then soldered in place about as shown in the boiler drawing. Solder the $1\frac{3}{16}$" tubing to these.

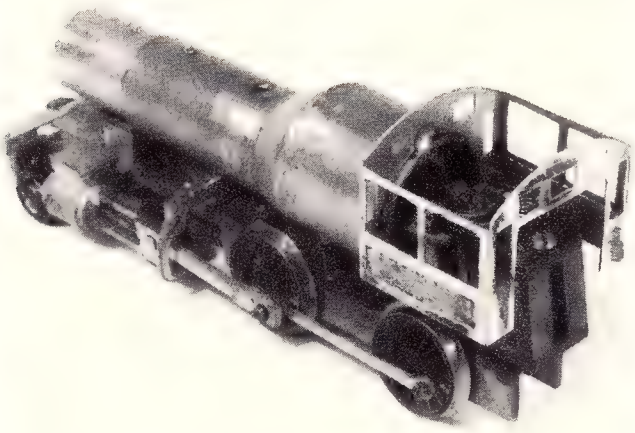
The slope between the boiler and firebox must be made from annealed .010" brass which means that it is softened so that it doesn't tend to spring when bent to any shape. To soften such a piece of brass, heat it up red hot over the gas stove or with a torch and let cool. The pattern for this piece must be determined experimentally using paper. I found that by creasing the paper or using an envelope I could get a pattern that was symmetrical. Naturally the widest part will be at the fold and this will be as long as the slope on top of the boiler. The shortest part will be at the ends of the pattern at what will be the bottom of the boiler. After four or five tries I got "the" pattern for mine and cemented it to the annealed brass. Then I cut that out and easily shaped it up and soldered it in place, filing and scraping off excess solder when it had cooled. The $1\frac{1}{16}$" diameter part of the boiler was held in place by this by an optical screw through what will be the bell mounting hole.

The underside of the firebox and of the taper must be cut out to clear the motor. I use an abrasive disc in a motor tool for this job. 2-56 holes are drilled and tapped top and bottom of the boiler $\frac{9}{16}$" back from the front of the firebox. The bottom one of these is used to attach the front of the boiler to the cylinders by a flat-head screw running up through the frame and cylinders. The top one is for the stack. You can then screw the boiler on and determine if it is level or what additional work will be required to make it level. Since the sand dome is to be screwed in from underneath, a screw-driver clearance hole will be necessary directly under the screw-clearance hole at the center line of the dome. The steam dome mounting screw will go through two pieces of tubing, but its head will be accessible via the motor opening at bottom of firebox.

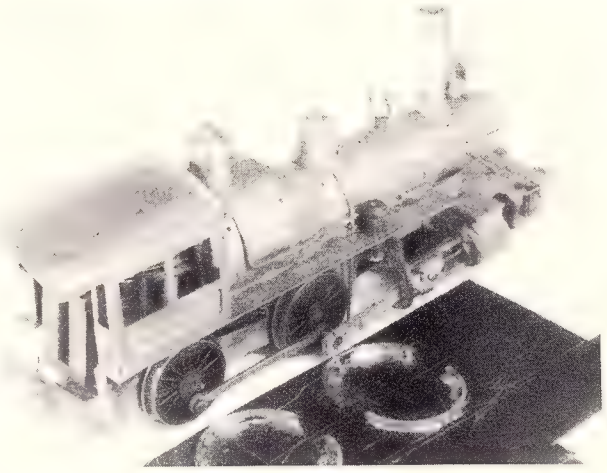
I drilled out the Kemtron TR-8 headlight for a GOW bulb and slipped a piece of $\frac{5}{32}$" diameter brass tubing into it, then the lower stub of this into a piece of $\frac{3}{16}$" brass tubing which is run right down through the top and bottom of the firebox, being soldered at the bottom. This will permit you to change the GOW bulb simply by removing the superstructure. The wires run back under the running boards to the motor brushes.

The cab should be marked out on a .020" or so sheet brass according to the pattern in upper left of drawing. Drill a small hole in each opening to be cut and saw them out with a jewelers' saw. File 90° nicks along the back of each bend and file the back of the ends to 45° angles. Make bends carefully, solder up the corner, and solder pieces of brass behind the lower panel. Solder cab to extreme rear end of the "smokebox," matching up center lines to get it level. Just spot solder it first so that you can resolder to adjust it correctly. The roof of the cab is shaped from annealed .010" brass and soldered in


4-4-0 American Type Loco in HO
File 90° grooves inside corners to facilitate bending
Cab pattern
Cut away lower half of smokebox
Bulkheads (see dwg. at right)
Cut wrapper to fit taper
Bulkhead
Cut out to clear motor
Cab deck not to scale
Warren whistle
Weight in cab roof
Weight
Mantua #6570
Mantua #6505
Mantua #76745
Tool box
Tender deck
Solder
Cab deck
Wood floor
Brass floor
2-56 x 3/8 screw
Motor
Air tank
Types of counterweights permissable
63" drivers
Yoke MDC
Cylinders MDC
Pilot deck — solder on
Pilot beam 1/8" sq. — solder to frame
Screw on pilot, then solder
Piling sockets
Marker lights
Budd pilot #104
Spoked pilot whls. Kemtron WA-31
Adjust angle to suit worm & gear used
Floor soldered in
To fit cyl. block
Side Frame 1/2" x 3/8" x 1/16 brass channel
1/2 Tender side pattern 1/2 size
Extreme front of curve
Top
Retainer 3/8" x 1/16" x 1 7/16
To fit gear
1/2 top of tender
Water hatch 1/16" brass
Cut out brass floor
Tender deck
Wood floor
Flange
Brass floor
Tools
Oil
Solder
Lead truck frame 1/8" brass
Lead truck yoke .010" brass
1/8" brass tubing
Bill Schopp



Cab has been formed and tack soldered in position. Small upper windows in cab are best omitted if cab roof is to be filled with lead weight. This design will appeal to all who like branch line roads.



Unpainted loco almost completed but lacking skirts. These are shown marked up and soldered, but still remaining to be cut apart. Layout dye makes brass appear dark. Engine can be painted any shade of black.

place, then the wire beading is soldered around its edge. I find a heavy leather left glove wonderful for holding such work in my hand while soldering very close by. The running boards form the floor of the cab (actually in two parts) and must be shaped to fit, then soldered in place.

The general idea of a yoke to hold down the rear of the cab is shown in upper left side of drawing. This is part and parcel of the cab deck. A ⅜" wide Z shaped piece is soldered to its underside and to the underside of the frame. 2-56 tapped holes on the underside of the cab enable you to run in screws to hold down the back end of the superstructure.

The stack of the engine is taller than any available straight stacks and so it must be made up from 3/16" brass tubing. A short piece of 7/32" tubing is soldered to its bottom and filed out to fit the boiler. A ring of copper wire around its top gives a nice lip. A piece of .010" annealed brass is soldered to the bottom curve, drilled No. 42, and trimmed 'round the outside. This permits you to attach the stack to the boiler with a 2-56 screw. The generator has a piece of fine brass tubing slipped on its stack and then run up alongside of and soldered to the regular stack. Any suitable bell can be used, and a Warren whistle.

Sand-pipes can be slipped into holes at the domes, then through the running boards and down in front of the drivers (or lopped off at the running boards for simplicity). The injector piping from the cab can be added to both sides. You may drill holes No. 65 for handrail posts, but do not install posts and rails until after painting unless they are to be painted too. (They look snazzy when unpainted). The air-pump is a Mantua two-part brass tubing run right through the running board. Air-tank (which I hadn't added when photo was taken) is located between the frames as it was on so many of these old locos, but is actually made of a piece of dowel or rod with a slice the thickness of the frame cut out.

Since I've gotten you enmeshed this far I'll give you a little bad news. The MDC cylinder block makes the boiler sit up unnecessarily high. Maybe this won't bother you as much as it did me. I lowered the boiler by grinding the saddle deeper with an abrasive cut-off disc in a hand motor tool. If this is done before the cab is held down, you can still keep the boiler level by eyeing it once in a while. If you do this, you will also have to grind out the center of the guide yoke to let the boiler sit lower.

If you wish to add weight, you can put it in the boiler where marked ahead of the motor and in the cab roof. If you melt up some solder, lead, or type-metal in a small ladle you can pour it into these spaces. Use wooden dams to keep it from running too far front and back in the boiler. Just pour a little at a time to keep the heat from melting off some of your soldered joints. I even poured it into the inverted cab roof (after wrapping cab with binding wire) just a little bit at a time. However it ran out the upper back windows which is why I show them on the elevation drawing but not on the pattern.

You can now solder on the three discs that form the boiler front and number board after the weight has been put in. With most of the handling now done, you can solder on the pilot beam, then screw and solder on the long pilot, and solder on the semi-hourglass shaped pilot deck. About the only type of coupler that will work with this long pilot and long overhang is the Mantua. For this you must make a very wide "loop" from stiff wire and solder it across the whole front of the pilot beam as shown in the photo of my engine. Even with a switching pilot the use of any other make coupler on the front end would be a tough proposition on any but the gentlest curves because it is so far from the center of the rigid wheelbase.

For a short-cut- you could use a Mantua Belle tender with just a little modification for coupling, but lacking one of these at the time, I went ahead and made the tender.

My tender is based on a ⅛" thick wooden floor to the underside of which is spiked a ⅛" brass strip tapped to receive the truck mounting screws. On top of this is screwed (from underneath) a brass floor which is cut out in the center to avoid touching the abovementioned spikes. This lets the tender shell be electrically dead.

The tender sides are made up in one long strip with sites for bends or curves marked. I used .010" brass and wrapped the front ends of the water legs around a piece of Tinker-Toy. The sides are soldered to the brass floor inside, then a tender top is made to fit and is soldered in. The back of the coal bunker is a separate piece soldered to sides and top. The flanges on top of the tender are three separate pieces soldered in place. The waterhatch is a piece of 1/16" thick brass sweated in place. Tool box is folded up from light brass and soldered on, while steps are pieces of ladder stock attached also by solder. The tender deck has to duck down below the cab deck. It has a wire crossbar soldered to its front end to fit in between the tines of the coupler "fork" on the cab deck. This is a method devised by George Stock and is much more satisfactory than the usual drawbar since it can be uncoupled instantly. Trucks are arch-bars.

To get electricity from tender to engine, run a 2-56 screw from a tapped hole in about the center of the underframe up through the wood floor and the hole in the brass floor. Attach the lead wire from the hot brush of the engine to this.

Attach your regular coupler to the back of the tender.

Not shown in the plans are the skirts around the drivers which are formed from ⅞" brass tubing soldered to sheets of brass which form a mask for the sides of the motor which is not very railroadlike when viewed from the sides. These are shown in one of the smaller photos. Solder these to the underside of cab and firebox.

Lloyd Giebner Builds an

OLD WATER MILL

Staff Photos

Easy to build, this nostalgic old time Water Mill will lend an air of Enchantment to your layout

PROBABLY a more suitable title for this article should be, as they say in song, "DOWN BY THE OLD MILL STREAM." And chances are our forefathers would have used this title: "HARNESSING THE FORCES OF NATURE."

Regardless of titles, this old time water mill is a rarity and is seldom seen on model railroad pikes. However, I do recall seeing one (an old water powered sawmill) on Lawrence Gieringer's expansive layout, Roadside America, Route 22, Shartlesville, Pa. Should you be in the vicinity of Shartlesville, Pa. don't miss viewing this extravaganza.

For you specialty builders that like to feature some miniature oddity on your model pike, this old time water mill is right up your alley. The water wheel was designed and arranged to turn (the action of the wheel was toward the right) a shaft, whether it be in grist, saw or pulling mills.

In principle the water wheels were very much alike, varying in size and were built to serve only one purpose: "POWER." There were several different methods of supplying water to the wheels. The wheels were named accordingly.

OVERSHOT WHEEL — (The type used in this construction article.) In.

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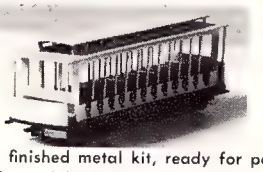

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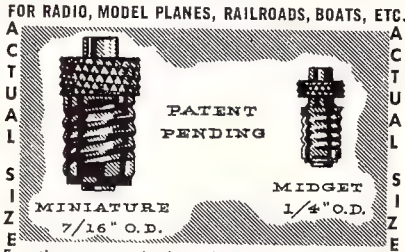

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Front end view of the water mill reveals the high stone base of the structure, easily duplicated by cementing stone building paper to heavy card stock. Most hobby dealers have building papers for HO & O.

Back end view also shows the side of the building facing the dirt road. Modeler may want to insert a larger door, if the mill is to handle large bags of wheat for grinding, or heavy logs for sawing.

this type construction the water must strike the wheel vanes at the top. The water was led on to the wheel through a penstock or flume, (the force and weight of the water turned the wheel), a gate was placed in the flume to keep back the water until needed. Usually a dam is constructed to bring the water level to the desired height.

UNDERSHOT WHEEL—Water was shot through a very narrow flume, forming a swift stream of water which hit the wheel vanes from below. In this case the water level could not be raised to form a dam for the overshot type.

BREAST WHEEL — Another case where the water could not be raised to strike the wheel on top. This wheel combined the essentials of both the overshot and undershot wheels. In this type of wheel the swift stream (mill usually constructed near small waterfall or rapids) of water struck the wheel vanes about half way up.

PITCH BACK WHEEL—The design and arrangement of this wheel was like a high breast wheel. Hence compared to the overshot wheel, the wheel vanes and flume were reversed, and the weight of the water striking the wheel about two-thirds up set the wheel in motion.

FLOAT WHEEL — This wheel was very similar to the old steamboat paddle wheel. Paddles were affixed to the top of the wheel rims. The wheel set down in the stream and a penstock guided the swift current of the water to the wheel paddles. This was the cheapest of all mill wheel construction. No dams or grade raising was necessary.

The construction project at hand features the OVERSHOT WHEEL which affords the use of a neat little dam built of logs and rocks. The wheel is the most involved part of the deal but if you will follow the step by step

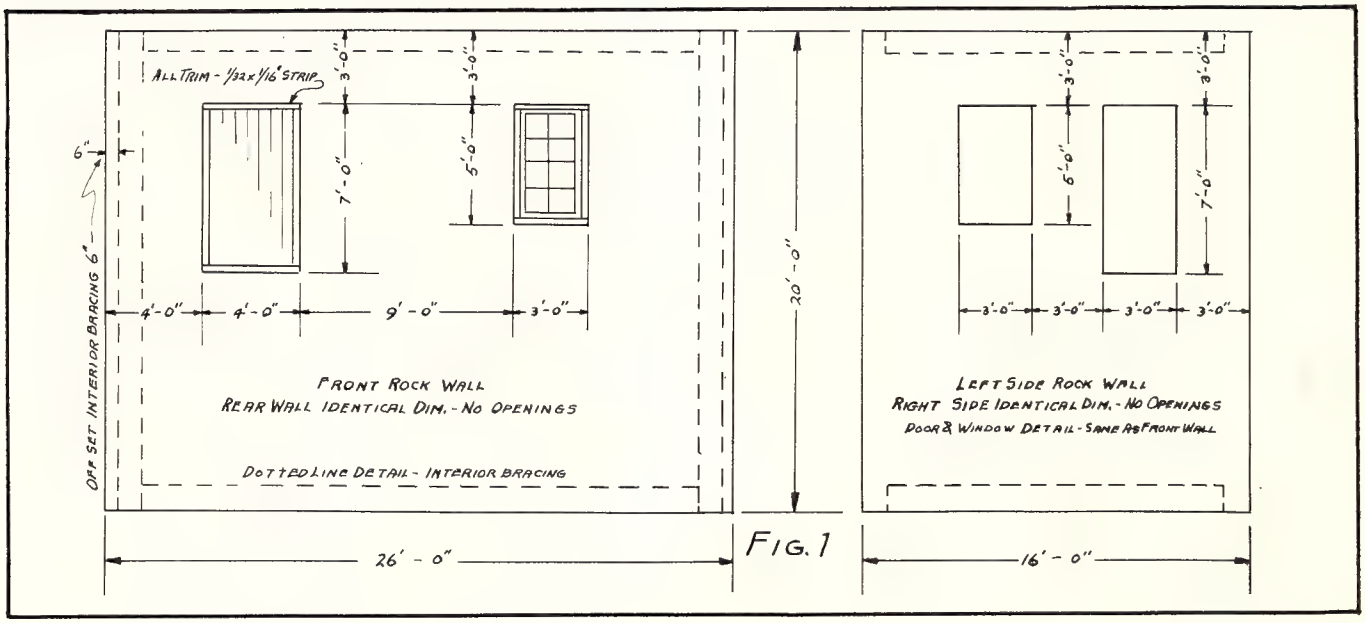
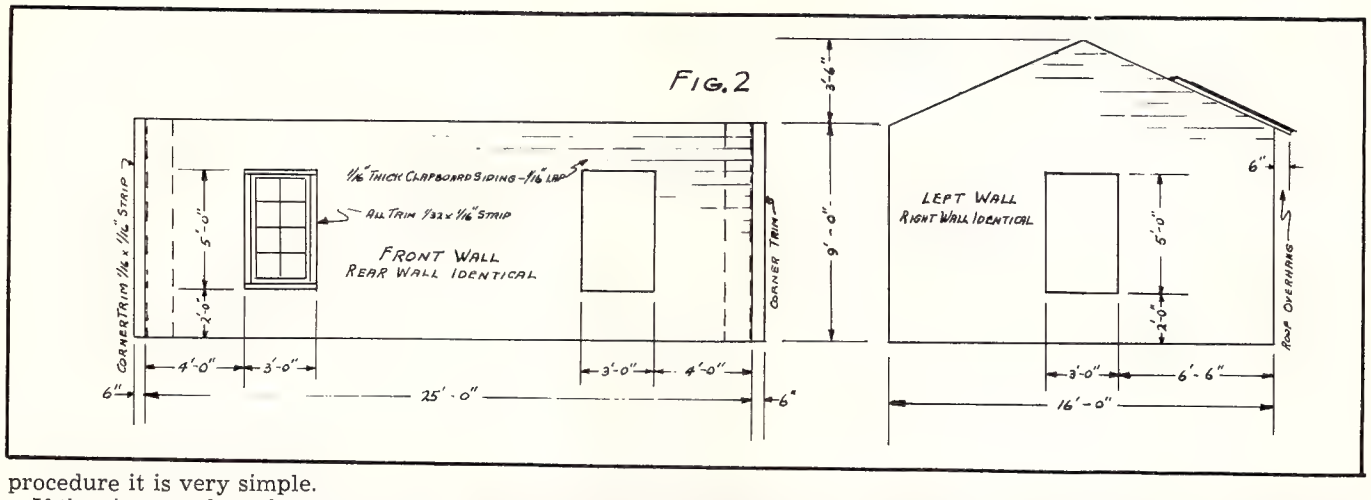


FIG. 1



procedure it is very simple.

If the rivers and creeks on your layout are arranged so that you cannot provide a high dam for the structure then select one of the other water wheel arrangements previously mentioned.

Very litle material is needed for this construction project and chances are you will find them in your leftovers or scrap box.

Should you need to purchase the materials, a list of materials is given, using Northeastern milled Basswood.

Of course any of the material must be purchased in full length. So you will have quite a bit left over from this project.

The mill structure is made up of two separate units, the lower part or rock walls and the upper part of clapboard siding. Each wall must be perfectly square.

The dimensions are in feet and inches to fit all gauges. Use your scale rule. Stripwood notations for HO only.

Construction

Fig. 1—Cut out the four walls in this figure (using the 1/16" thick plain sheet) according to dimensions and detailed instructions. Glue the walls together and square them in the same operation. Now glue on the Walthers V163 field stone to the walls. Add the trim, the

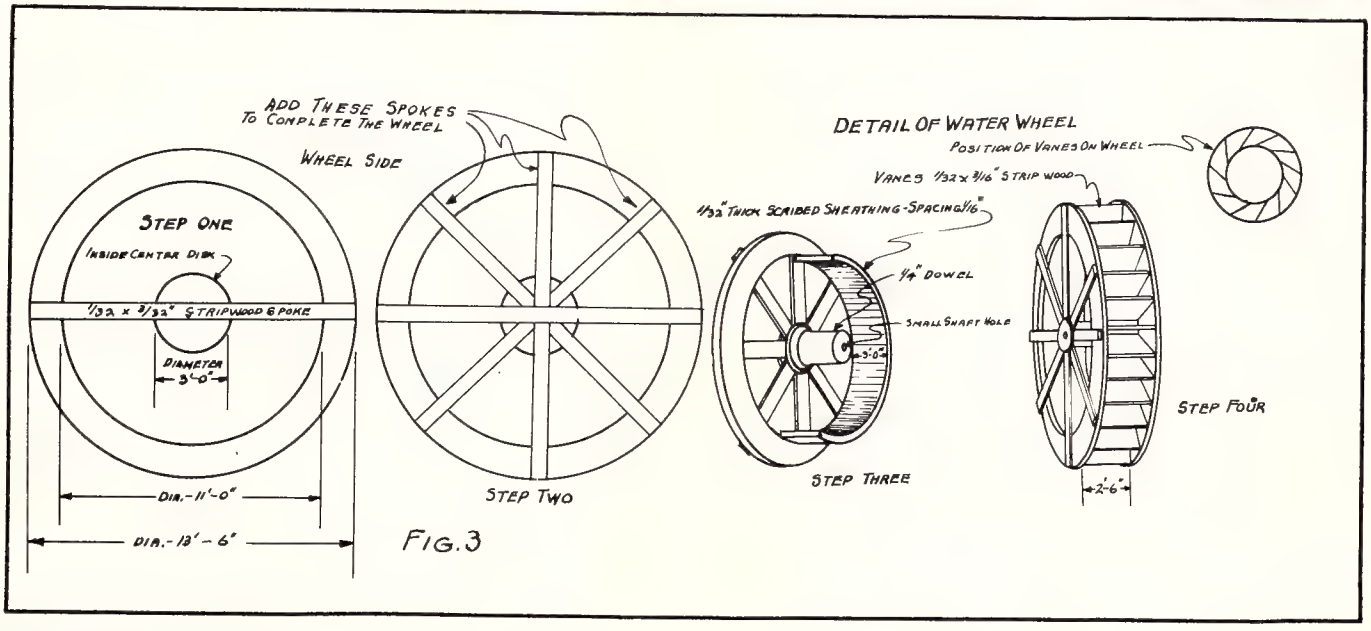
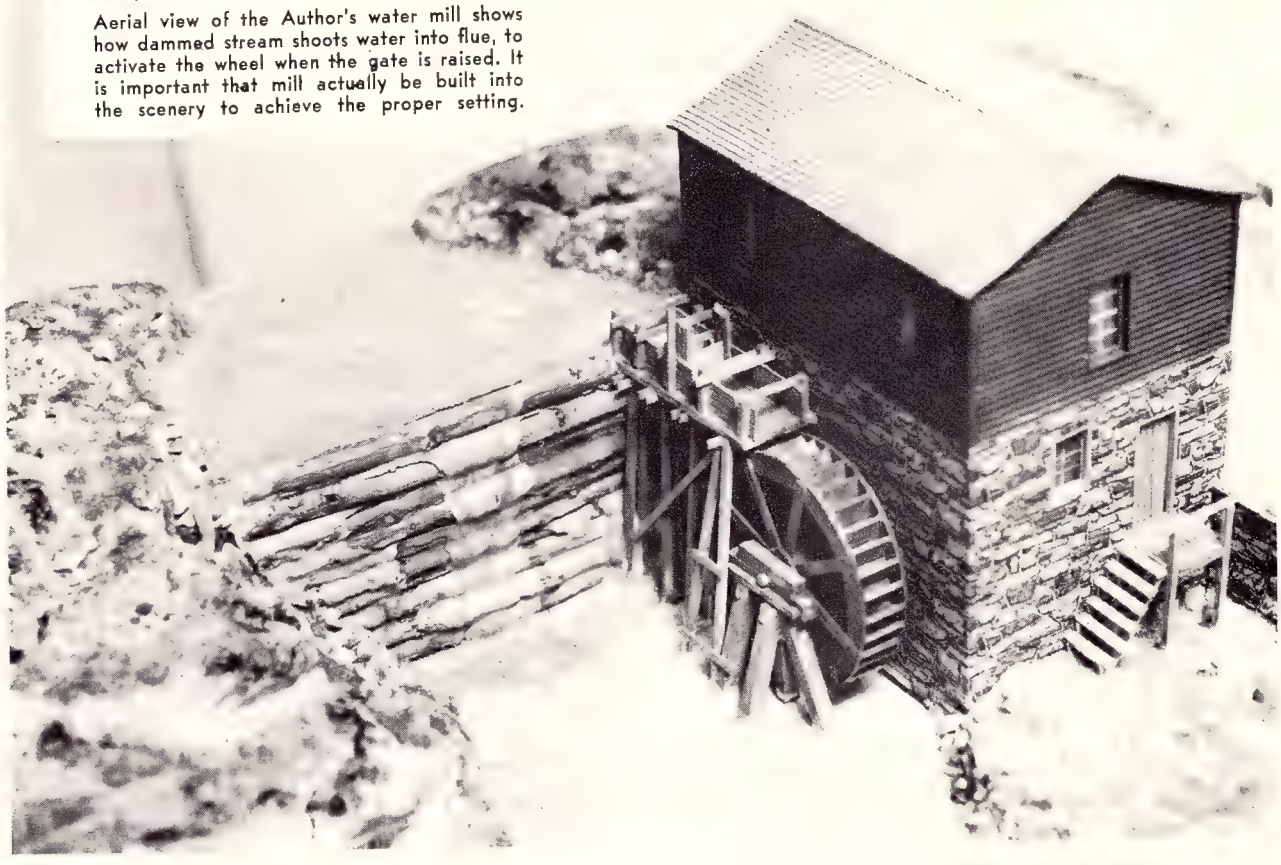


FIG. 3



Aerial view of the Author's water mill shows how dammed stream shoots water into flue, to activate the wheel when the gate is raised. It is important that mill actually be built into the scenery to achieve the proper setting.

window sash is a square of Strathmore board cut to imitate. Affix the acetate windows and the scribed door.

Fig. 2—Cut out the walls (using the clapboard siding) according to dimensions. The corner trim glues to the front and rear wall only. Add interior corner bracing to front and rear wall only and glue the left and right wall to the corner trim and the interior bracing.

Affix the window trim and the sash pieces, also add a ridge beam and glue on a one piece Strathmore roof to fit allowing a six inch overhang on all sides. Glue on the Walthers V175 wood shingles. Paint the walls a color of your own choice and add the acetate windows. Glue the top story to the stone wall section and set aside for now.

Fig. 3—The water wheel is illustrated in four steps to simplify the make-up. STEP ONE — Using the 1/32 inch thick plain sheetwood, mark lines according to detail and cut out the wheel sides and the inside center disk. Glue the stripwood spoke to the center disk and wheel side as illustrated. Make two wheel sides. STEP TWO — Affix the additional spokes to the center disk and wheel side as directed. STEP THREE—Cut a disk the same size as the inside center disk and glue this disk to the outer side (center) of the wheel. Cut the ¼ inch wood dowel (representing the shaft housing) and glue it in place to one of the wheel sides. Now to this same wheel side cut the strip of scribed sheathing and glue it in place accordingly as illustrated. Allow a little time for this part of the wheel assembly to dry. Then glue the other wheel side in place. STEP FOUR —The wheel in this figure shows the vanes set straight in, while the small circle wheel shows the position of the

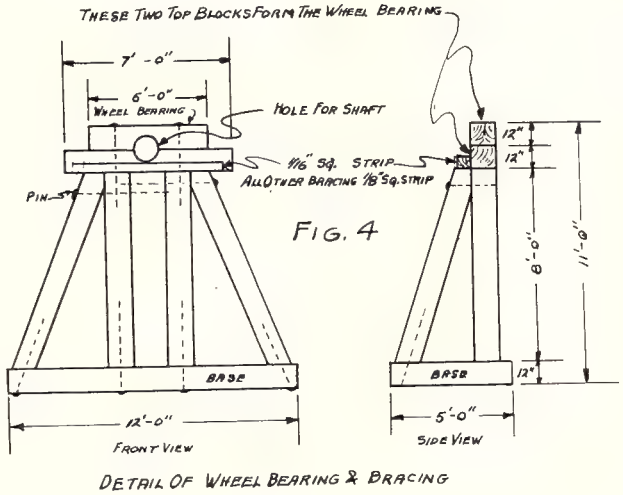


FIG. 4

DETAIL OF WHEEL BEARING & BRACING

BILL OF MATERIALS

- 1 length 1/32 x 1/16" stripwood
- 2 lengths 1/16 x 1/16" stripwood
- 1 length 1/32 x 3/32" stripwood
- 1 length 1/32 x 3/16" stripwood
- 1 length 1/8 x 1/8" stripwood
- 1 sheet 1/32 x 3" x 24" sheetwood plain
- 1 sheet 1/32" thick scribed sheathing—1/16" spacing
- 1 sheet 1/16" thick clapboard siding—1/16" spacing
- 1 sheet 1/16" x 3" x 24" plain sheetwood
- 1 sheet Walthers Field Stone V163
- 1 sheet Walthers Wood Shingles V175
- Glue, 1/2 inch bank pins and a small piece of acetate

vanes set in at an angle. Either is correct. However, reverse the position of the vanes shown in small circular wheel drawing for an overshot wheel. Just thought I would show the vanes on the wheel in a reverse position. A detailed drawing of this nature sometimes saves you a lot of trouble. Cut the wheel vanes according to dimension and detail and glue them in place.

Fig. 4—This figure illustrates the arrangement of the wheel bearing and the wheel bracing. Cut all the pieces according to detail and assemble—glue and pin together. Glue this assembly to the wheel. Push the shaft (a small nail) through the small holes you have drilled. Paint this portion of the assembly with brush wash or dark brown. Glue water wheel to the side of the building, allowing 12 scale inches between wheel and wall.

Fig. 5—You can see by looking at this figure the water powered mill has been designed for a dam (logs represent the dam) approximately 17'6" high—the flume drops below the water level.

Start by making up the flume and adding the gate detail. Make up three stilt sections and glue to the floor of the flume—add the sway brace.

The "A" shaped brace at the wheel end of the flume rests on the wheel brace base. Also the length of this "A" brace is slightly longer than 15'0" and must be fit. Paint this assembly the same color as the wheel and glue it in place. Add the HO chain which runs from the lift bar to the window sill.

A pull up on the lift bar from the window raises the gate and water flows through the flume onto the wheel, setting the wheel in motion and the mill in operation.

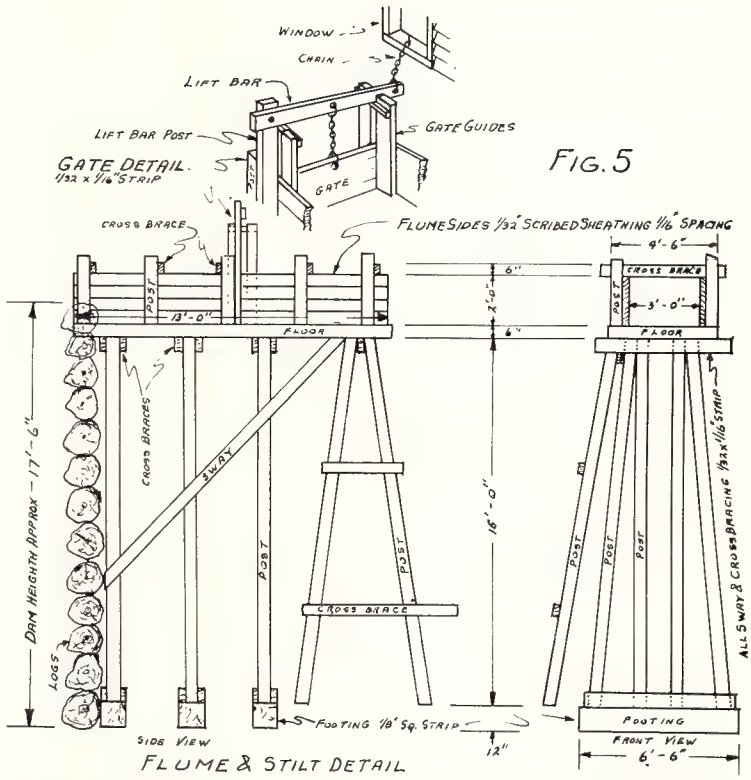


FIG. 5

FLUME & STILT DETAIL

A small platform porch and steps is affixed to the door in the rock wall. There is no drawing or dimensions on this as I don't know how much fill you would use on this side—So! Use your own judgment.

To simulate flowing water in my stream and rivers I use a mixture of (water putty powder mixed with water to the consistency of pan cake batter) Durham's water putty and after the mixture has been poured in place, immediately streak with blue and white water color, then to level off the mixture tap the base board with a hammer—the sharp jolts or vibration will give you a smooth surface. When dry apply about three coats of clear varnish or lacquer.

Scenery surrounding the structure is left up to you and I'm sure you will make it attractive. The photographs show how my model was set into a scenic base.

Side view of the mill house shows wheel and flue details clearly. Such water wheels are almost gone from the scene but a few are still found.

Half the fascination of open cars comes from being able to see the loads that they carry. This trainload of steel pipe can easily be modeled in HO using ordinary soda straws painted black, grey, silver, or orange. Steel strapping holds them tight.

Photos Signode Steel Strapping Company, Chic

LOAD THOSE OPEN CARS

THE loads that you see on open railroad cars are not just haphazardly thrown in place. They are carefully, even scientifically, placed in position and then securely fastened down. Neither the railroads nor the shipper can afford to take the terrific losses that could, and occasionally do result because a load hasn't been properly secured before shipping.

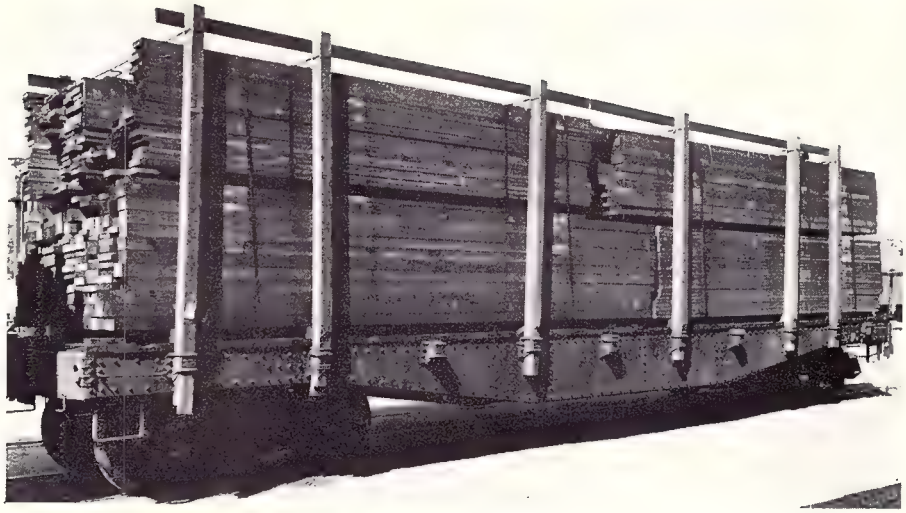
Flatcars and gondolas are loaded with all kinds of things: pipe, giant cylinders, crates, heavy machinery, lumber, poles, and more. In the early days little thought was given to packing these items, with the result that shipments were often broken. Even worse, loads would sometimes shift and cause train wrecks. There have even been cases where loads shifted just enough to cause heavy metal girders to rip open paralleling passenger trains with loss of life.

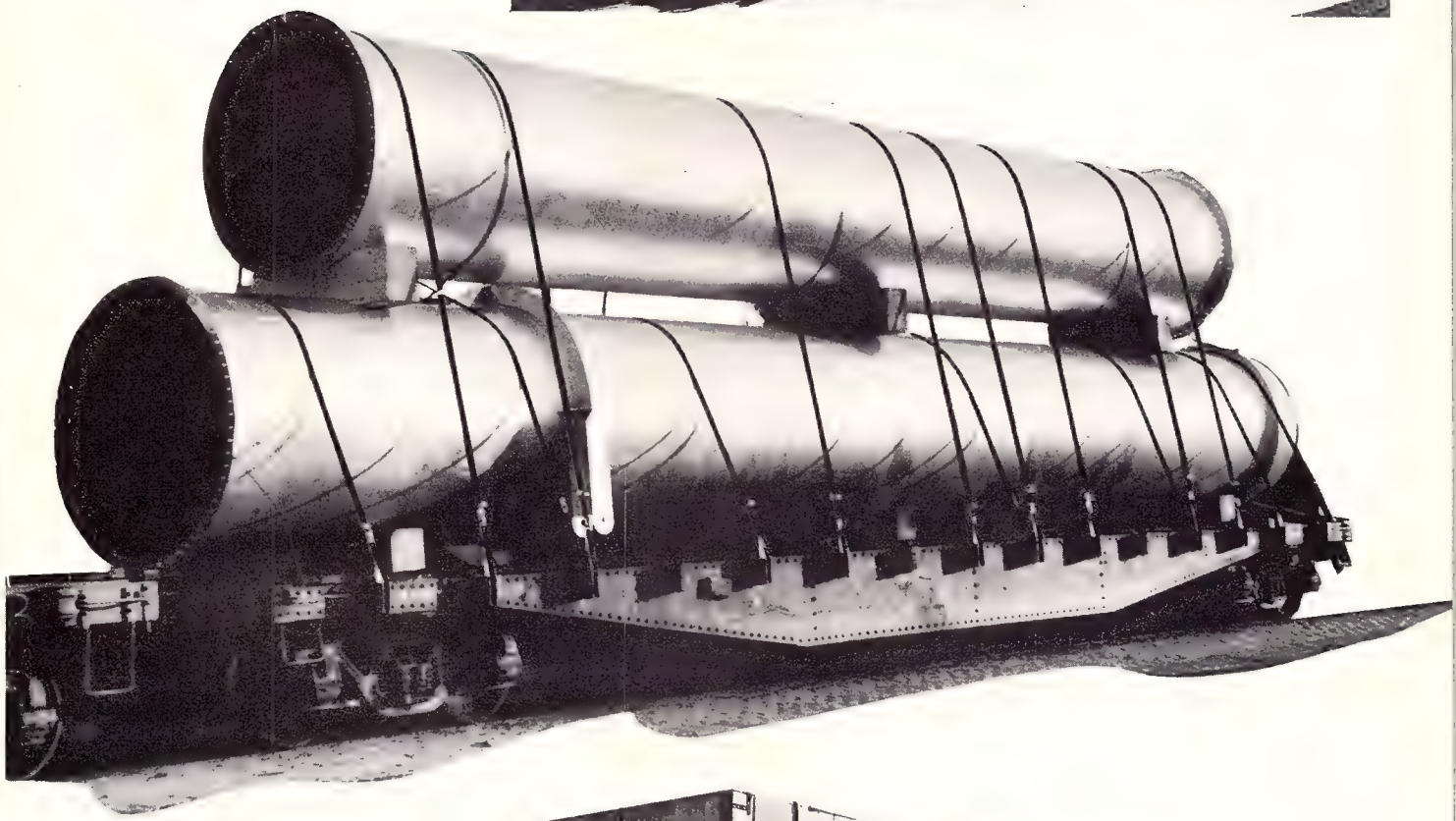
Gradually an art of car loading, for both open and closed cars developed. Wooden blocks and rope were used to secure loads. Heavy logs were held in place with chains.

More recently, the Signode Steel Strapping Company has developed the use of heavy steel strapping to save both time and money. These thin bands of steel rigidly hold all kinds of loads in place and often permit easy one-unit removal of the item being shipped.

All too many modelers skip completely the loading of freight cars, and in so doing, they lose much of the appeal that their road could have. For example, ordinary soda straws, painted in any of several pipe or tubing colors, and then bound with thread to simulate the steel strapping, make an excellent and impressive load. Crates, lumber, wooden poles and machinery are other items easily made up as loads at little cost. The photos show how the loads should be fastened down.

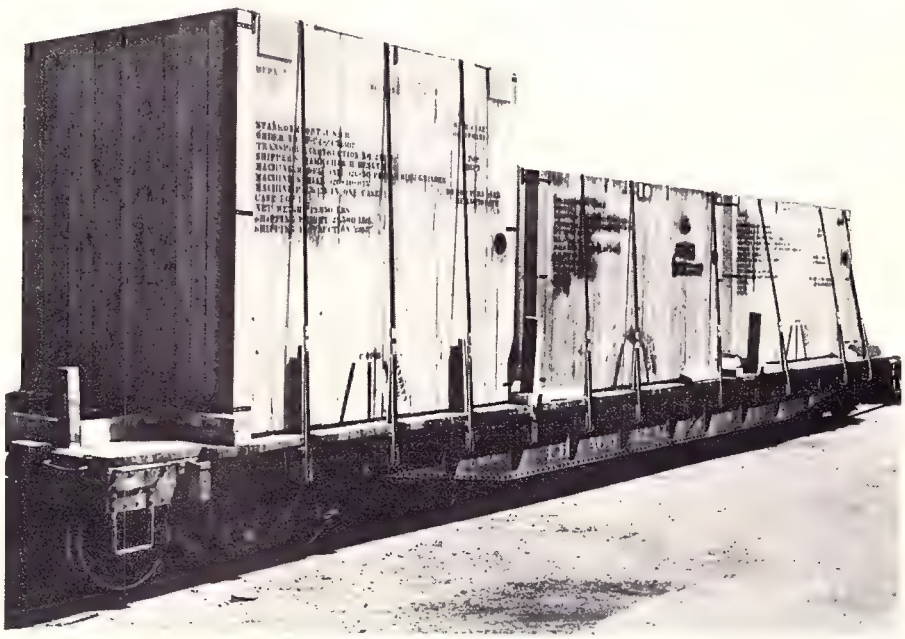
RIGHT: Still another type of flatcar load often seen. Use precision strips for the lumber, upright wooden stakes, and thread or metal strips to simulate the steel strapping that holds load secure.

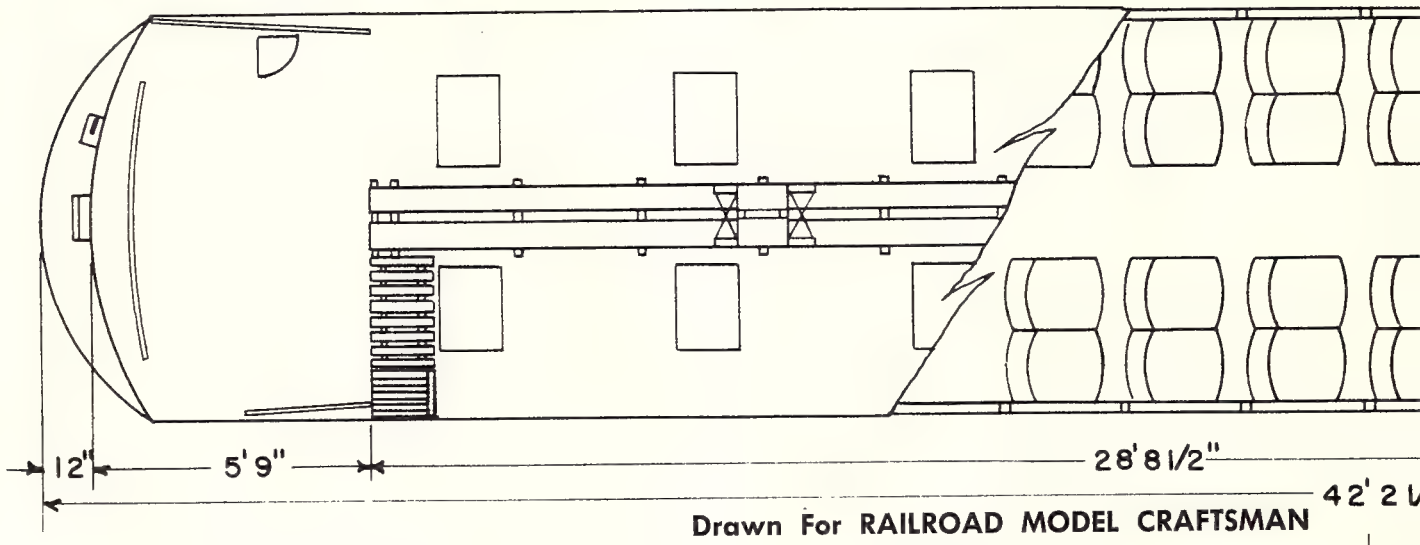




ABOVE: Cardboard tubes covered with aluminum foil duplicate these heavy cylinders. Supporting blocks are wood, Signode strapping of thread in HO, thin brass or steel strips in O. Cover the ends.

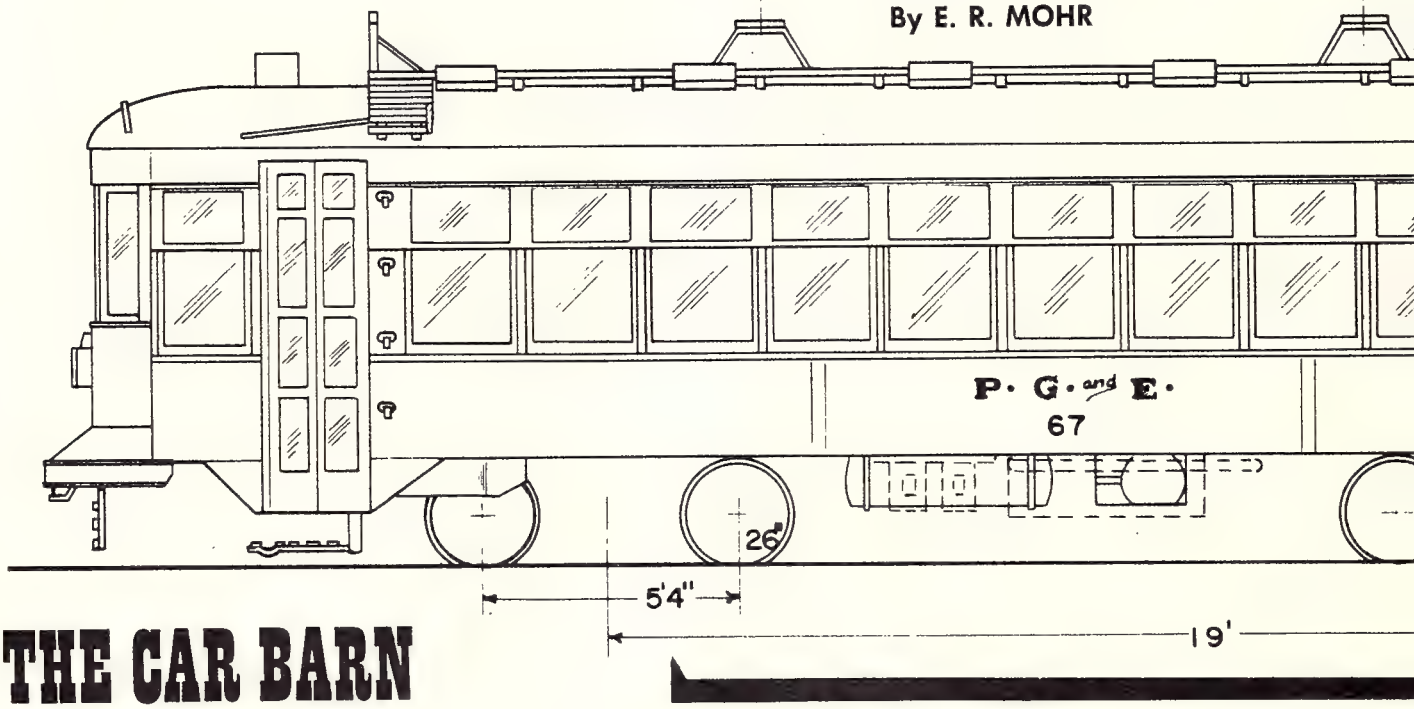
RIGHT: Large crates are a familiar load. Make of blocks or build up from sheet wood. Wood bracing plus simulated Signode strapping holds load tight.





Drawn For RAILROAD MODEL CRAFTSMAN

By E. R. MOHR



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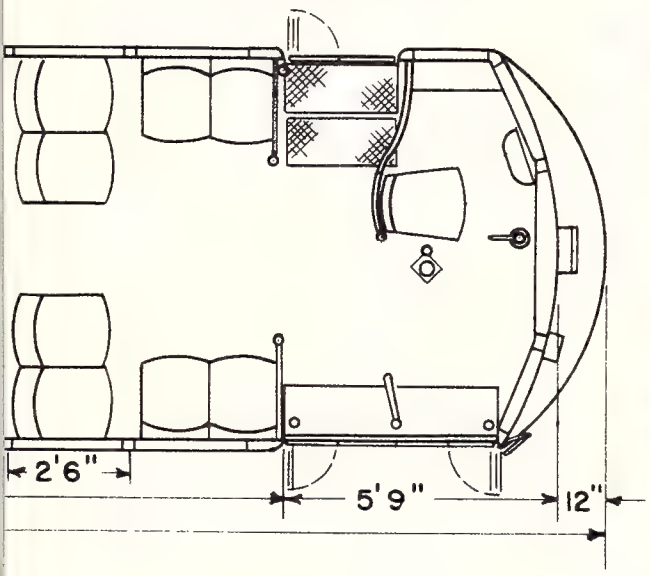
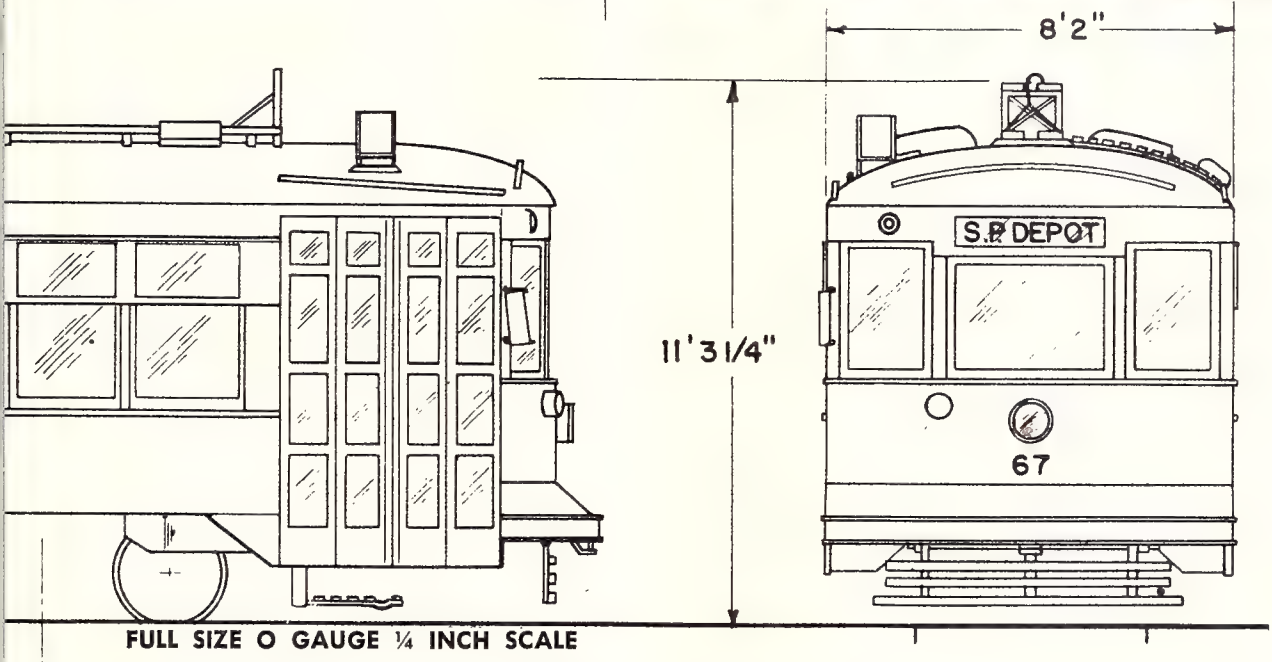
TRUCKS	Brill No. 177-E-I-X
MOTORS	2 GE 247-A, 40HP.
CONTROL	Double End GE K-63
SEATS	Reversible leather, 44
WEIGHT	30,038 pounds
COLORS	Yellow to belt rail. Cream above belt rail. Mahogany sash and doors. (Sash and doors later painted cream) Black trim and lettering. Roof, black, later aluminum.

Photos by E. R. Mohr





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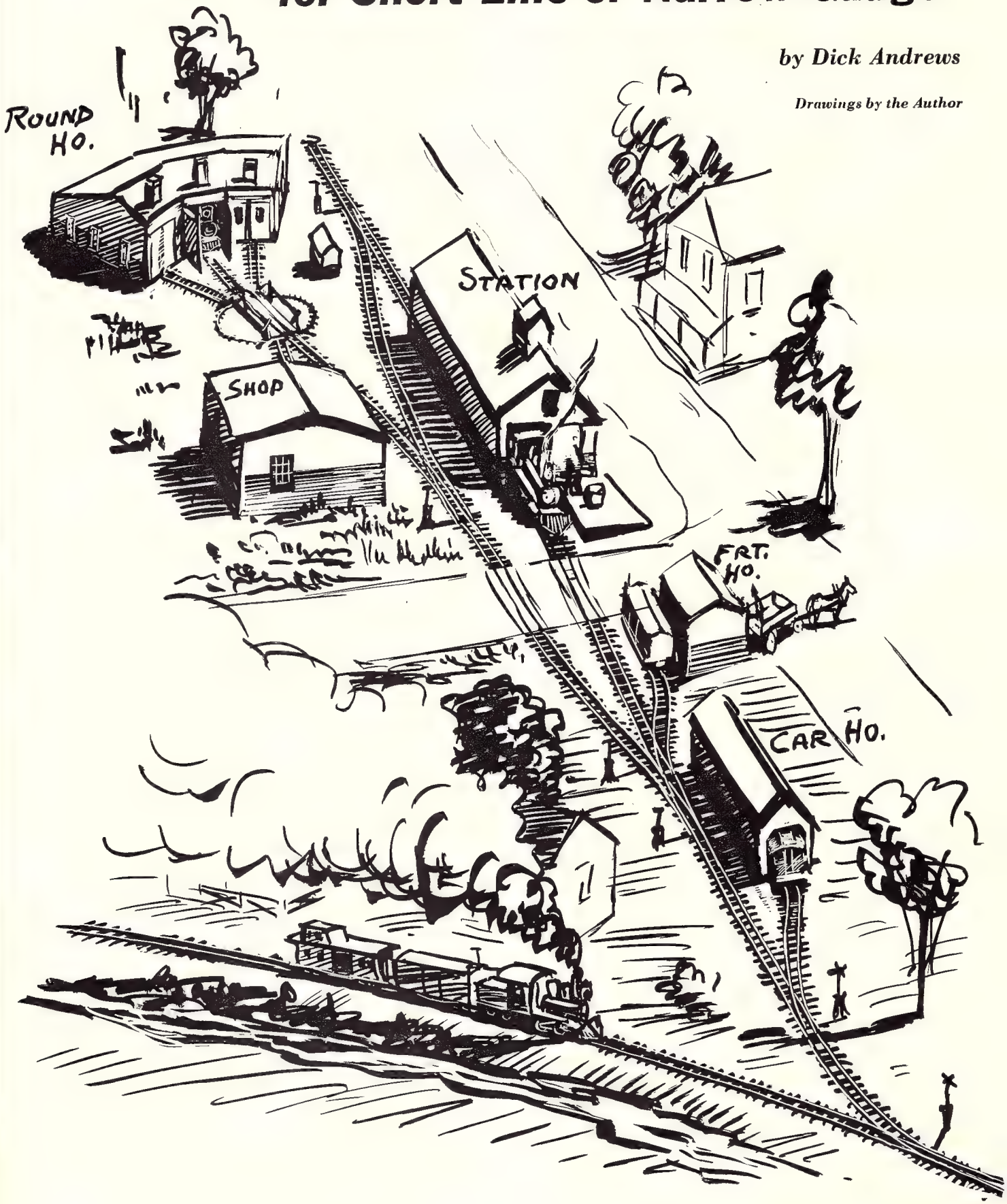
NORTH COUNTRY TERMINAL

for Short Line or Narrow Gauge

by Dick Andrews

Drawings by the Author



AN old north country institution on the order of covered wooden bridges or meat pies for breakfast, was the covered station. The passenger didn't have to leave the warmth of the depot stove, and brave the icy blasts outside in winter—in order to board the open-end passenger cars. They were run inside!

Our sketch (Fig. B) shows the old covered depot at Kingfield, Maine, on a branch of the famed Sandy River system. Strictly functional, it is simply a lengthy shed-type building covering the station track for the length of two or three 45 ft. narrow-gage passenger cars. A sliding barn-type door at either end is opened in winter only long enough to permit the cars to enter or leave. While we have no exact data on the interior arrangements of the station, there is little doubt but that the space was divided lengthwise between the car space—and the usual space allotted to freight and express handling, agent's office, and waiting room. Photos of these old structures are rare; our sketch shows the only side wall we have data on—the train side. But no doubt the other side was punctuated with the necessary windows and doors for freight, waiting and ticket agent's rooms, while the other end was probably identical to this one. Note the low platform handy to the roadside, just outside the door, so that a farmer could load or unload freight direct. Those are probably apple barrels in the picture.

Steam locos were apparently allowed indoors, as the evidence of the smoked-up doorway suggests—and the cupola on the roof for ventilation. No doubt the station building inside was open up to the roof. The window above the door in the picture would not be for an attic, but to admit light onto the "concourse" when the end doors were closed.

I would figure the dimensions of this simple building to be about 100 ft. long, and about 25 ft. wide, judging by an old friend, Sandy River mogul No. 16 in the doorway, and the length of two SR coaches coupled. One of the aspects of this type of station that has always recommended itself to me for model railroad use—is that one can better imagine scale people bustling about inside, and getting on and off the train. Also, it is actually quite a space-saver, in that it covers the station track. And you might keep your passenger cars or even a loco stored in it, away from dust!

The bird's eye view of Kingfield sketched here, shows the station in relation to the whole set-up, which is very simple. Kingfield was the operating terminus of this branch of the Sandy River, and regular train service was provided down to connect with the main line at Strong, 14 miles south. At one time the branch was an independent pike—the Franklin & Megantic Ry. A further extension—once the subsidiary Kingfield & Dead River R.R.—ran on some miles north to logging areas. In the sketch, a short mixed train is coming in off the K&DR from the north. It will pull down past the switch at the right, and back into Kingfield; then head out to the right and south to Strong.

Note the little three-stall engine house, and the location of the smoke-jacks in the FRONT of the building! Many of these short lines NEVER headed locos into the house, like so many cows at milking time, in the manner of most big systems. They backed them in, ready to head out. Similarly, the passenger cars were kept in a shed. An interesting feature of the engine terminal is the little pony-truss turntable, which sat right down on the ground, and derived its strength from a straining-beam and truss-rod arrangement on either side.

Perhaps the best clue to the fact that this crazy shed IS a station, and thus worth including on our model—is the name board such as appears on the end wall to the right of the door in our sketch.

In later years, the Sandy River replaced the station with a conventional structure clear of the station track. The wooden turntable was replaced with a model stiffened by side girders like a through-girder span. Additional sidings were provided along the old K&DR extension; otherwise the compact little yard remained much as before.

Sandy River No. 6, a Portland 0-4-4T Forney, is shown on the roundhouse lead in our drawing of the station. This engine is still in existance, preserved on the farm of Frank Ramsdell at East Thompson, Conn. Note that both she and No. 16 seem to be sporting jam tins on sticks over the cab roofs; these are the casings for the exhaust syphons of the vacuum brakes, worked by steam, to syphon air out of the train line.

Narrow Gauge Jet

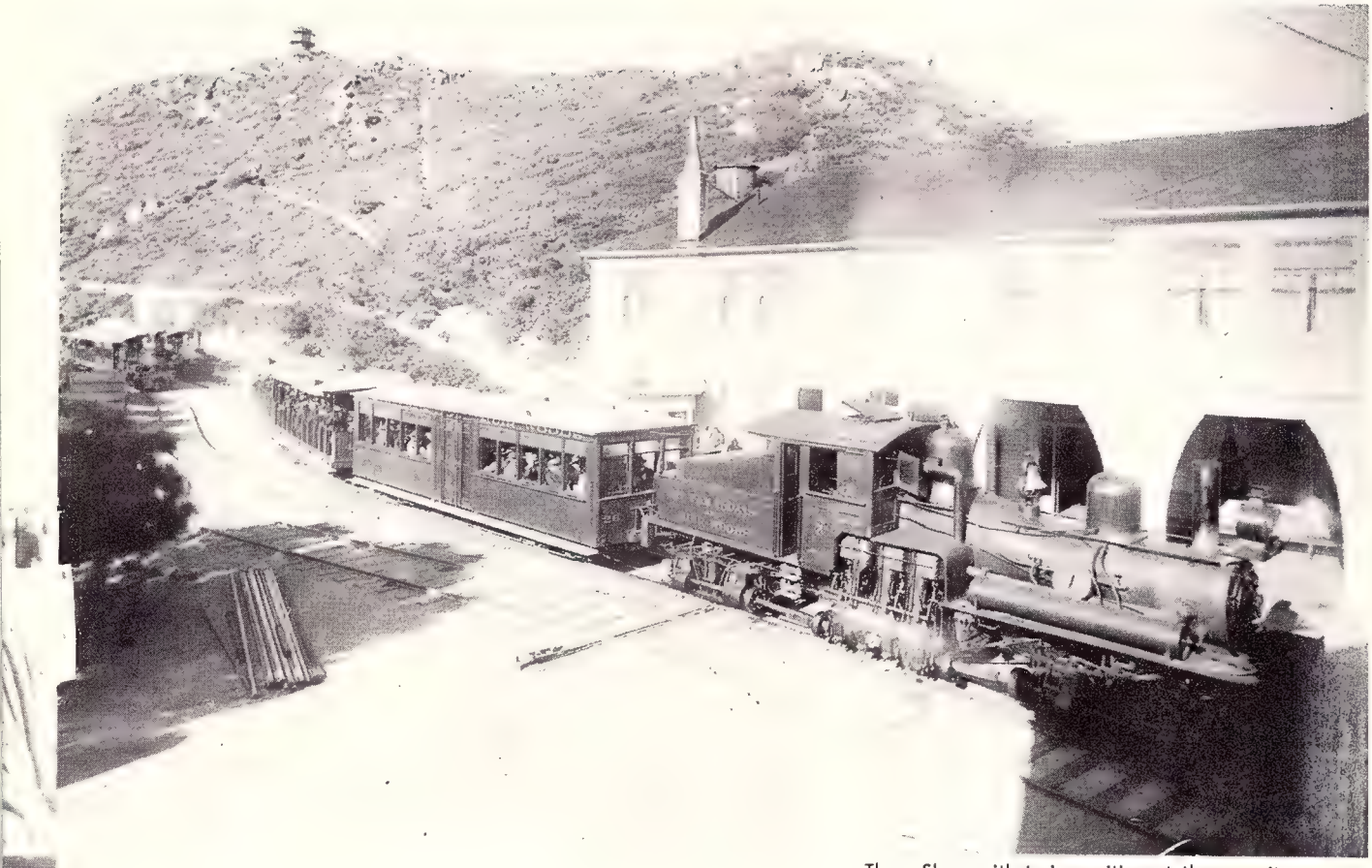
In regard to Otto Perry's questions on On3 trackwork, I'd like to say that even if commercial track were available for On3 or On2, I doubt if I'd use it except on a quite extensive system. It just isn't that hard to put it together out of the very simple components that ARE available. Scale ties—6" x 6" x 7' for 3 ft. gage, and the same except 5 ft. length for 2 ft. gage—can be ripped out of any handy box wood. I have found the little stakes sold for plant names in gardens to be very handy and rip them with an X-acto stripper. They are then cut to length in an Ayers mitre box with a razor saw.

Rail used for On3 is .100" (HO) to .125"—for On2 is .100". Good speed can be made in spiking down with a Lindsay HO magnetic spiker. Every man to his own favorite track base. Bill Schopp has sold me on homosote cut to roadbed width on table or jig saw. When this is positioned in the layout, the ties are simply glued in place with Elmer's, sanded with a sanding block for smoothness — and the spikes driven home. For a real rail fan it is a very satisfactory process—being as close as possible to the prototype method!

Classic portrait of a Shay with one car train at the Tavern. Small tank on cab roof was a reservoir for water to be squirted on wheel flanges to reduce friction. Locomotive is No. 8.

model Mt. Tamalpais & Muir Woods RR. the CROOKEDEST RAILROAD

Train taking water at the Double Bow Knot. On opposite track is string of gravity cars being hauled up empty, plus unique water car used to take water up to Tavern. Line is abandoned.



Three Shays with trains waiting at the summit Tavern on busy day. Observatory at upper left marks actual top of mountain. Cars were unique.

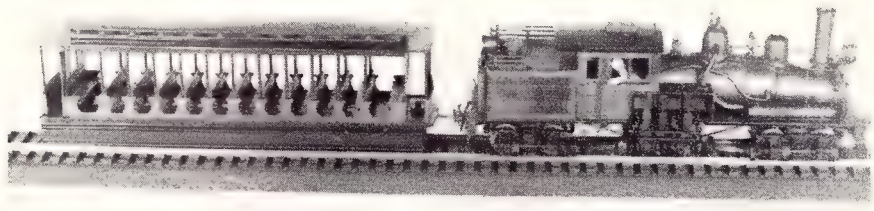
SOME years ago I did a story of the Mt. Tamalpais & Muir Woods Railroad, together with photographs and several layout plans for a similar pike in miniature. Since then, a rich store of photographs on this wonderful old railroad has been made available by Al Graves, perhaps the foremost authority on this line. This additional data plus some interesting HO models now on the market have made it possible to model this line with a great deal of authenticity.

The Mill Valley and Mt. Tamalpais Scenic Railway was opened in the Gay Nineties after much maneuvering, from the former town at the end of the Northwestern Pacific narrow gauge connection with Sausalito (and San Francisco via ferry) to the summit of Mt. Tamalpais where a tremendous view of the bay area and ocean could be had. Standard gauge (with a third rail for narrow gauge as far as the shops) throughout the line was operated with geared engines and open cars, altho electric operation was considered seriously and closed cars, even gas buggies made their appearance later on. When the road was converted from wood to oil fuel in 1902, the way was opened for a branch running from a wye at Double Bow Knot (Mesa station), half-way up the hill, down into Muir Woods where there was another tavern. This branch was operated by steam as was the rest of the line, and by gravity cars coasting down from the Tavern of Tamalpais station at the top of the hill. In addition there was considerable talk later on of building another branch from West Point Inn, about ¾ way up the hill, down to Bolinas on the ocean, but a highway scotched this. Trains were always run up and down the mountain with the locomotive downhill.

Motive power on the mountain road was restricted to geared engines, seven Shays and two Heislers in all, which could take the very steep grades and sharp curves in stride. On the leveler portion of the road from Mill Valley up the canyon to Lee St. the line's only rod engine, an 0-4-0T (similar to the Mantua Booster, but not quite as modern) was operated in what amounted to local street-car service. Besides this there was at one time a four wheeled steam motor car, and four different gasoline motors, largely concerned with local service but also used on the mountain when required. Of the 23 passenger cars, 19 were open, two were half enclosed, 2 were totally enclosed. There were two flat cars and 32 four wheeled, thirty passenger gravity cars.

For model purposes, of course the United Shay geared engines imported by Pacific Fast Mail can be utilized for power, fitted with their straight stack and perhaps altered in other respects such as the cow-catchers. The Model Tramway System open bench trolley makes a fair representation of the cars used, altho on the one in the photo I

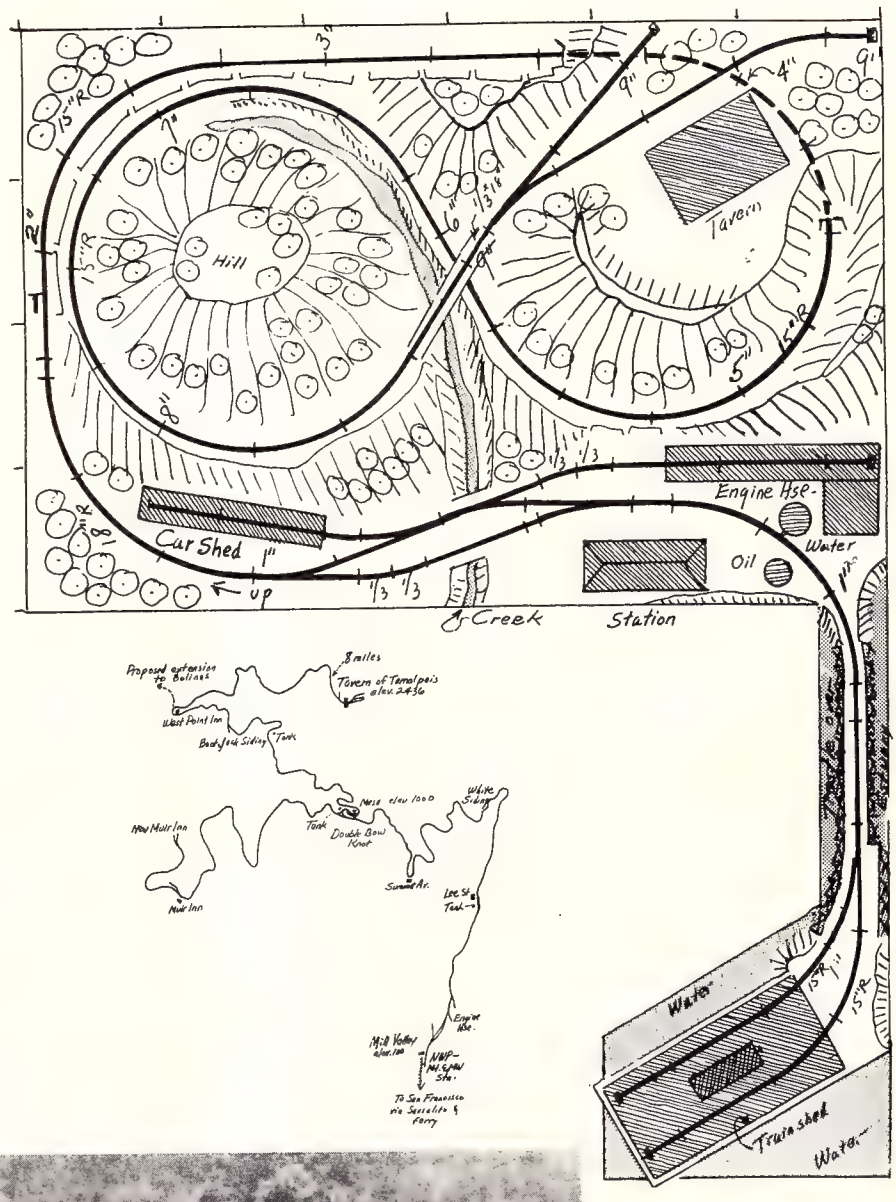
Mt. Tamalpais train in HO gauge, using United Shay plus Model Tramways open bench trolley, slightly modified. Use of Shay locomotives will permit steep grades that would normally be prohibitive on a regular HO pike. If you like mountains and curves, this is the line to build.



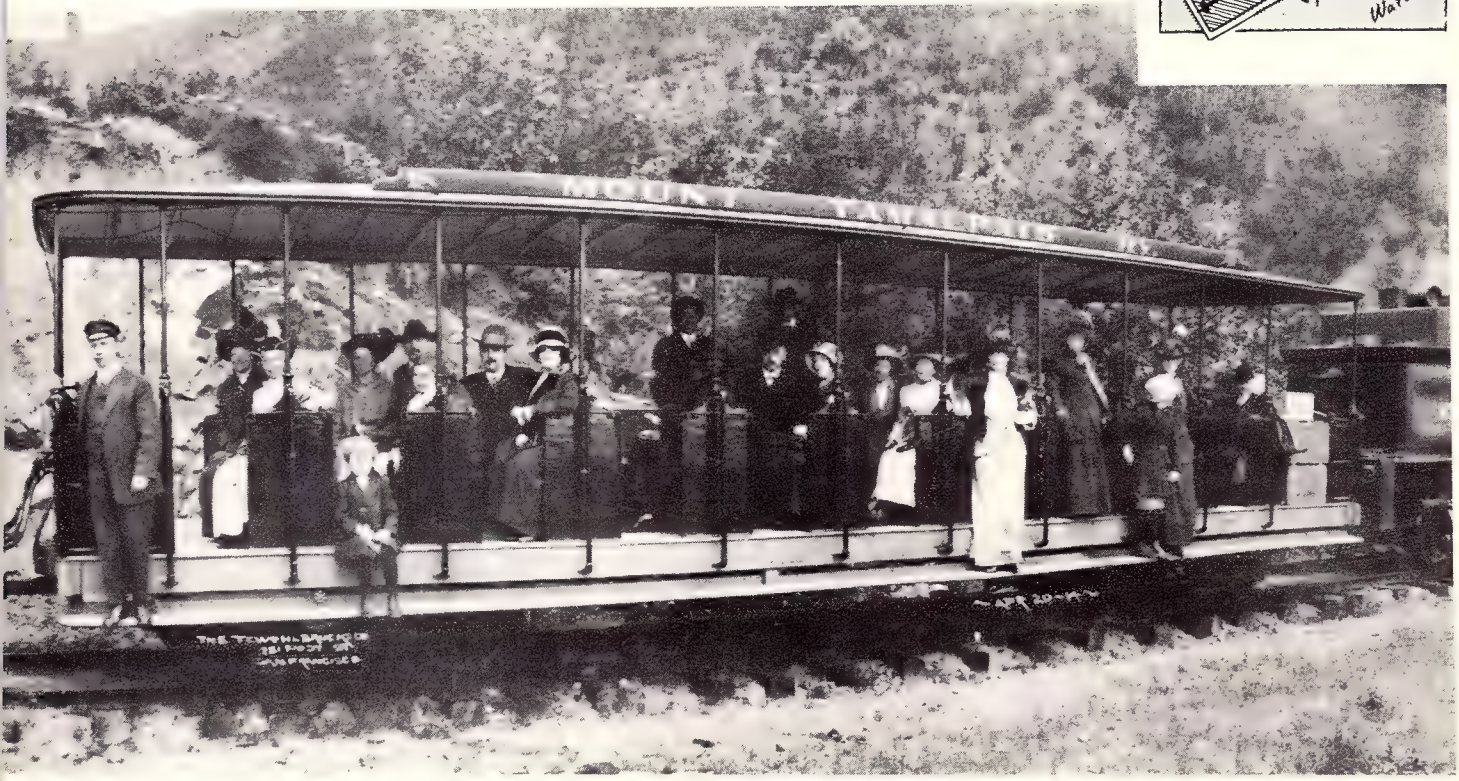
added an extra step along each side soldering on Special Shapes Z section 3/32" x 3/16". For couplers I used Hi-Ballers link and pin ones.

Much additional information, including numerous photos and scale plans of all equipment used, can be found in the book written by Al Graves (and who is the source of most of my information). This book is called "The Crookedest Railroad in the World" and is published by Academy Library Press of Fresno, California, for $3.75. I have read it through five times and never tire of it.

The HO model adaptation of the Mt. Tamalpais theme presented here is based on a four by six foot platform. From the base station where there is a run-around track and sidings for engines and cars, the line winds up around 15" radius curves and grades of over 3% to the 9" high summit where there is a tavern. The tunnel is placed at the back, more or less out of sight, since there were no tunnels on the prototype, partly to save money, partly to keep the open car passengers from being sooted up. The grade could probably be steeper with geared engines for power, but you can suit yourself. I show an extension from the base station out over a low wooden trestle to a dock where there is a trainshed and a small waiting room. Steamers bring prospective passengers to this dock and trains take them up the mountain. The layout is shown divided for Snap-Track to simplify it electrically. The track terminal section is located at "T" at extreme right.



Photographer would snap photo at Double Bow Knot as trains went up; would have prints on sale when group returned. This photo is dated April 20, 1914. Recognize your Aunt Matilda?



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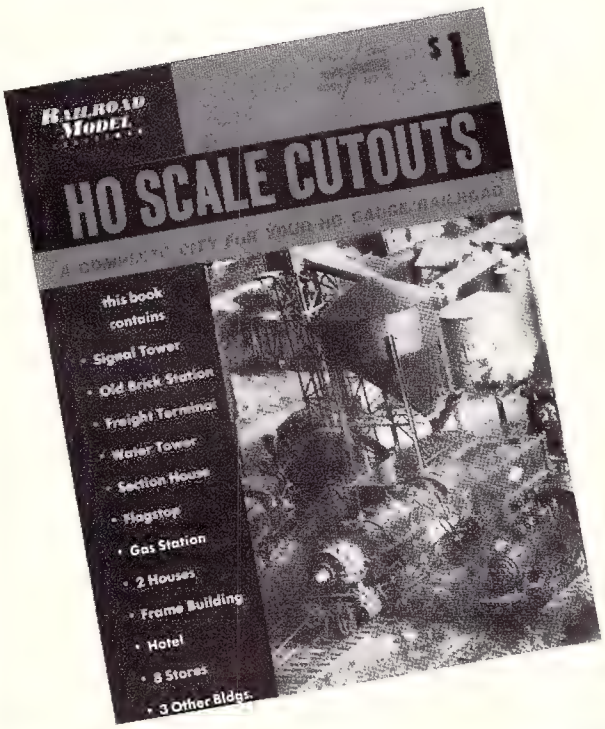

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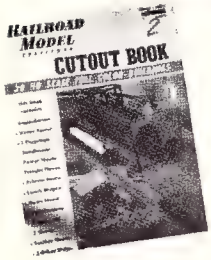

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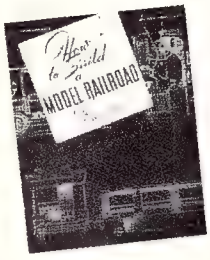

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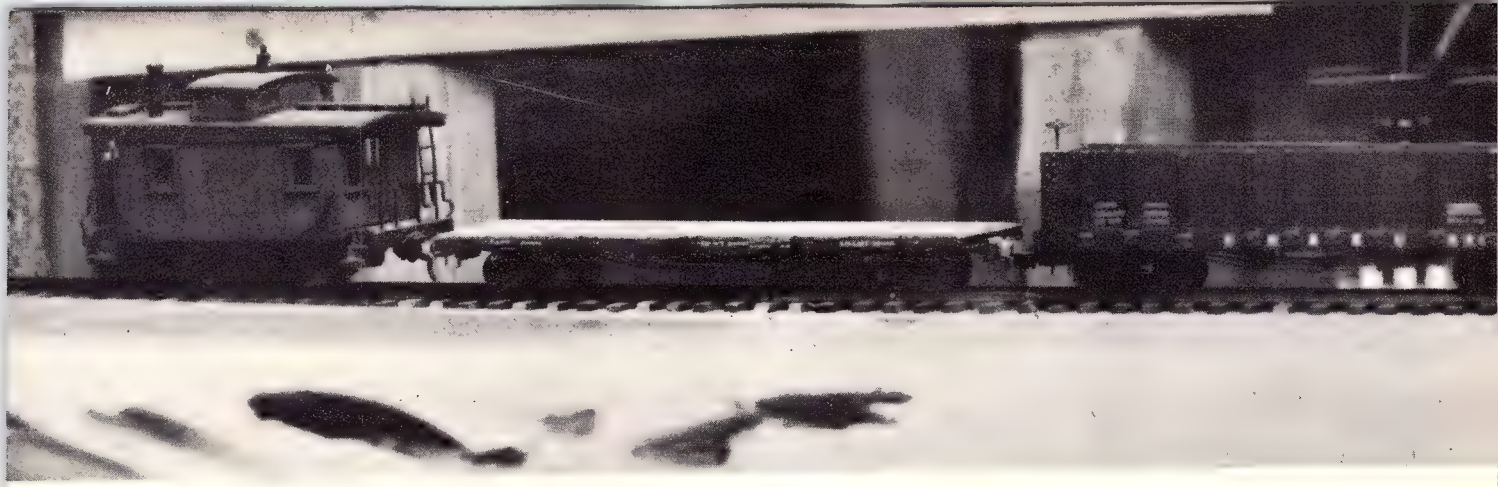


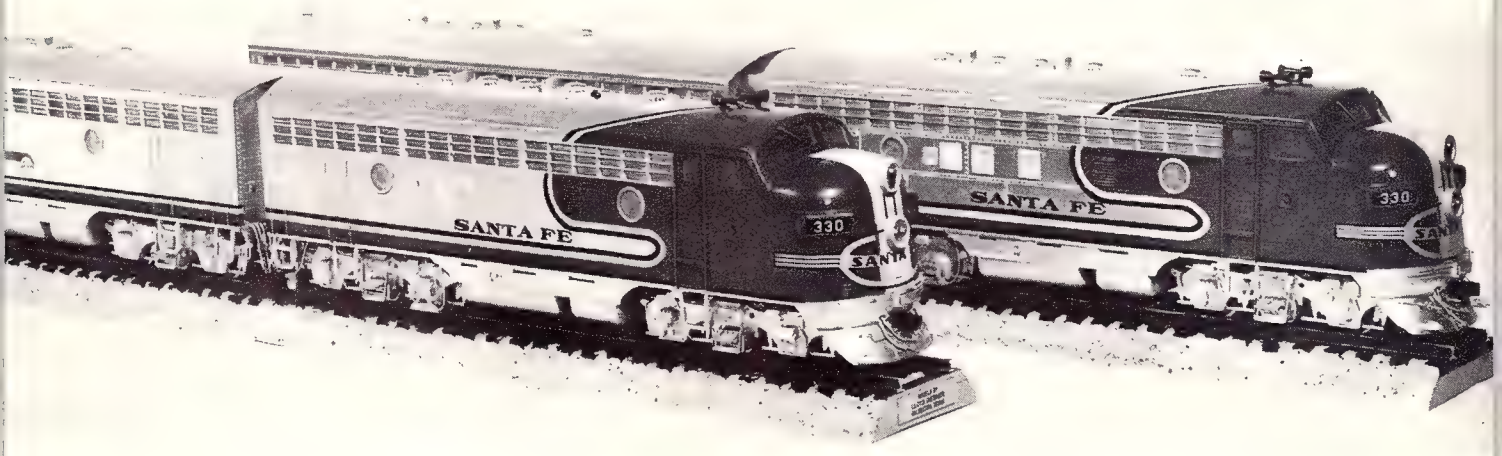
RAILROADS ON DISPLAY

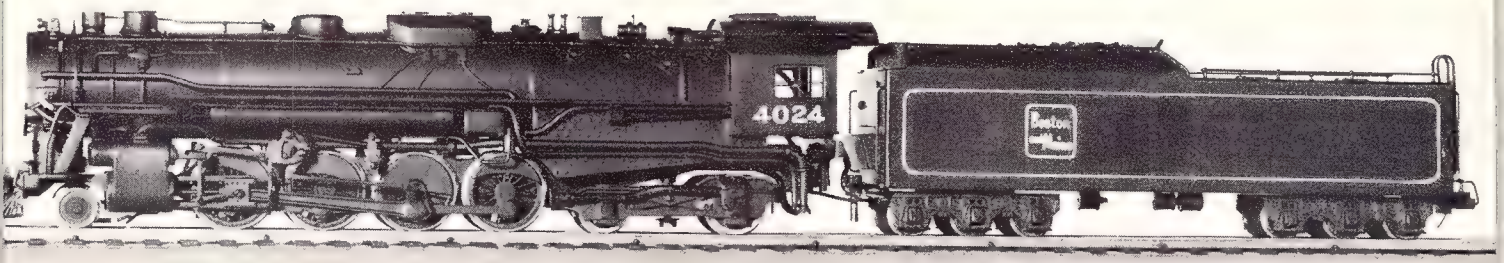
We pay $5 for readers' photos used in this section. Send size 4x5 or larger prints to: Editor, Railroad Model Craftsman, Ramsey, New Jersey.

One-spot on the O gauge Desert Lines of Dr. J. E. Andes, in Needles, California, is painted dark green with gold letters. Model is a Max Grey Shay, with considerable alterations. The engine is a real beauty.

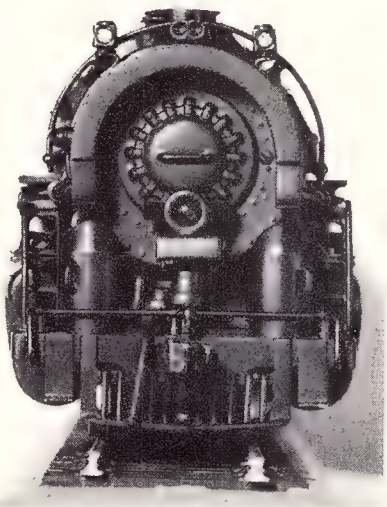
The On3 Catspaw Hill & Kittybreath RR. is located on the Rancho de Un Caballo, of J. H. Powell. Eng. 22 is another Japanese loco, converted with American drive by Ted Collins. Road has used link and pin couplers but has switched over to Janney AAR design, a new fangled invention.

Lloyd Giebner built up these half inch scale Class 325 Santa Fe dual service Electro-Motive diesels. The models were built for the road's advertising department; they are made of stainless steel and wood.

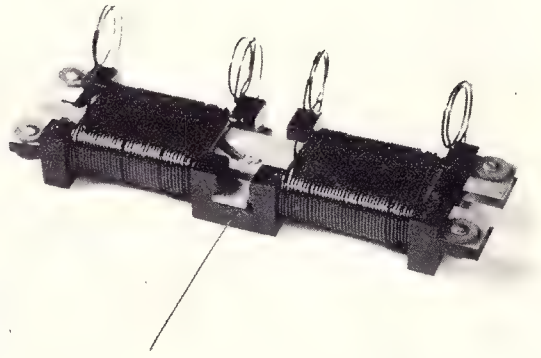




Air Corps 1st Lt. Bruce C. Bowden had this Boston & Maine Berkshire built up for him while stationed in Japan. The husky HO hog is typical of the B&M's Berkshires as they looked just prior to their scrapping.



Switch Machine Wiring



by the Layout Doctor

Switch control isn't as tough a job as many modelers make it out to be, provided you'll follow the advice of the Layout Doctor.

NOTWITHSTANDING my often repeated idea that the cheapest and easiest way to control model railroad switches is through the use of an automibile choke (or hood-latch) control cable, there are still many fellows who prefer to use switch machines for their remote control turnouts. There is indeed a fascination in throwing a lever or pushing a button and having switch points click over that is absent in the silent pushing or pulling of a choke rod handle. Switch machine wiring is one of those fundamentals that are so basic that we magazine editors are inclined to take them for granted and either ignore them or gloss them over. Well, *here* is, I hope you will grant, a simple article on electrical switch control—at least as simple as is possible to make it and cover any ground.

As for the switch machines themselves, there is a wide choice on the dealers' shelves. The comprehensive switch machine survey published in the April 1955 RMC (available at 50c. from the Ramsey, N. J. office) is still valid, except that you should add the Tru-Scale and Atlas switch machines which, while available separately, are at their best when mounted directly to the Ready-Track, Snap-Track, or Custom-Line switches for which they were meant. These are meant for top mounting only, whereas other makes lend themselves in most cases to concealed mounting if desired. I am personally in favor of top mounting of *whatever* make of switch machine is used simply because it makes wiring and adjustment so much easier—you don't have to work over your head in a dark and dirty place.

The mechanical linkage of the switch machine to the switch throw-rod is something else again. With any but attachable switch machines (Tru-Scale, Atlas)) it is somewhat of a problem, even with choke-rods. Each manufacturer offers suggestions with his machine, so I'll not go into that here except to point out that some springing is necessary: the machine should have more "throw" than the switch points, then the springing will hold the points solidly over against the stock (or outside) rail.

I'll dispose with single coil switch machines first. The only one now on the market is the Pioneer "Indian Head" which will also work very nicely as a relay when "Pony" contacts are added. The rotary switch machine was not a switch machine at all but a war surplus item which has all but disappeared from the market. They cost the government lots more than the prices paid for them. Needless to say single coil switch machines have a place, particularly on a little used remote switch where current is left on only when the switch is turned, not when it is in the normal position. A single-pole, single throw (SPST) switch or push-button is used to actuate one.

By far the vast majority of switch machines in use on model pikes today are of the double solenoid variety. A *momentary* impulse of current turns the switch one way, and there it stays until an impulse into the *other* coil turns the switch. Hence the actuating device should be either a pair of push-buttons or a single pole, double throw (SPDT) switch with spring

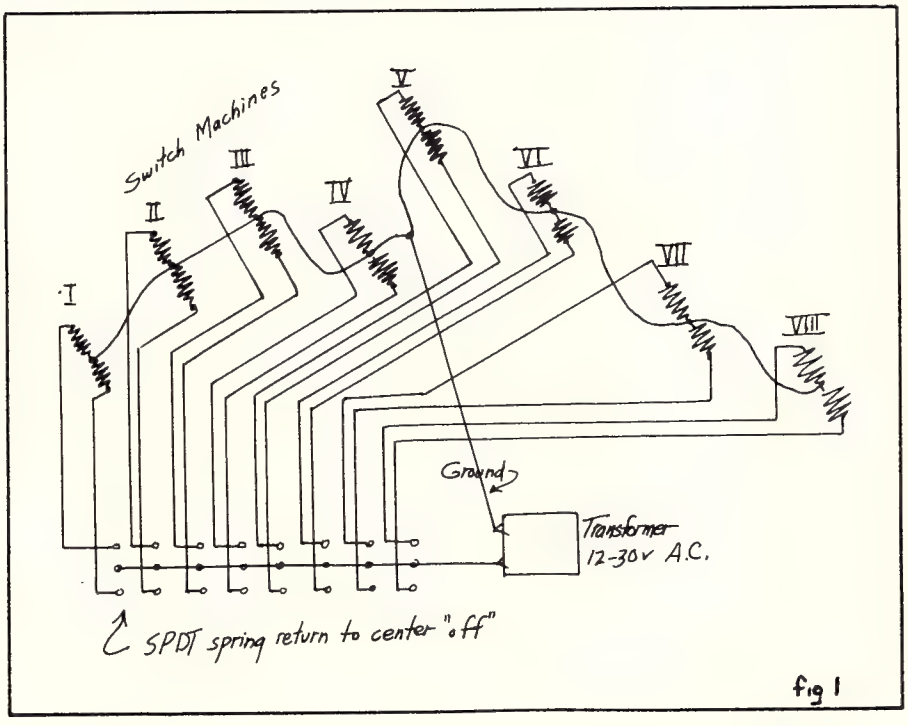


fig 1

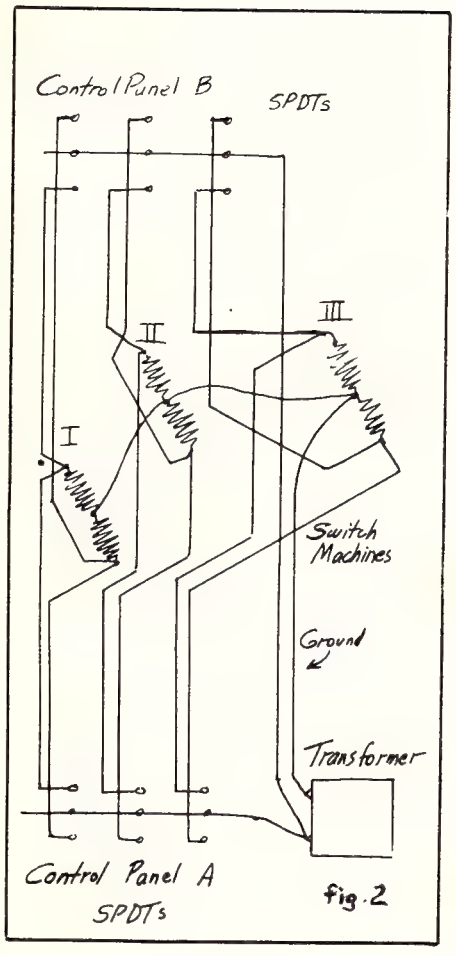


fig. 2

return to a center "off" position.

Fig. 1 shows the hookup of eight (the number could vary) switch machines to a group of SPDT toggles. The power can come from a transformer, since A.C. is quite satisfactory. Most power packs have A.C. terminals which can be used, but throwing a switch will cause a train running from the same pack to hesitate owing to the heavy power requirements of the machine. It is far better to have a separate transformer, say an old toy one, for switch machine power. The voltage may be anything from twelve to thirty volts, whatever is required to make the machines click over nicely. Most modern switch machines work efficiently on the 16v. or so A.C. delivered by power packs and that is a good starting point. Of course the coils will heat up if the power is kept on, no matter what voltage is used. I have recently used some old Electra twin solenoid machines almost ten years old and found that to get them to work well I had to throw in twenty-five volts A.C., and believe I could have used thirty to good advantage.

One wire from the transformer runs to all the center posts of the SPDT toggles. The other wire from the transformer which I call the "ground" runs around and connects to the centers of all the switch machines. At these centers the inner ends of both coils are wired together, then to the ground. The ground wire may follow any convenient route or routes. It helps not to have too many, say more than six, machines on any one ground route since by disconnecting various such routes in turn you can have a help in trouble shooting sometimes. Also when you get to the far end of a ground wire there may be some voltage drop so that far away switch machines do not work as efficiently as close-to ones. So keep your ground routes short or use heavier wire to minimize voltage drop at the far end.

The outer ends of the switch machine coils should be connected to the outer terminals of the SPDT toggles on the control board. Actually it will not be as neat and orderly as I have drawn it with top to top, bottom to bottom, but will be arranged so that when pressing the toggle or control box lever *down* (usually) the switch is lined up for the main line—or main*est* line. This is something that you have to work out for yourself as you go along. You have a 50-50 chance of being right in the first place, so it is not worth the brain strain necessary to figure it out in each case. If "down" lines the switch up for the siding, reverse the connections to the SPDT or to the switch machine, but not both.

When you use switch machines, you are able to control the switches from two separate spots if you want to duplicate the wiring. One engineer might be at the front, another at the back of a fair sized layout, and it will be a convenience to be able to turn the switches from either place—or at least *some* of the switches. Fig. 2 shows such a dual control hook-up for three switch machines. If you have some of your machines so hooked up, you do *not* have to have all of them.

Most switch machines on the market either have auxiliary contacts built into them or have them available as extra equipment. These can be utilized for one or both of two jobs. Fig. 3 shows how they may be used to positively control the polarity of the rails beyond the switch. As you may or may not know a track switch or turnout in two-rail (excluding Snap-Switches and tinplate) is also an electrical switch. In fact that is the basis of the 2-rail system we use today. When the switch points go over, they also switch the electric current. But this relies on firm contact of the switch points with the stock or outside rails of the switch. If a speck of dirt gets in between or the points miss by a hair of being solidly over, bingo; you have no current on either of the branches beyond the switch and your engines will stall or creep. For this reason among others I have favored choke controls for almost twenty years, but if your mechanical linkage of switch machine and throw rod is nice and springy, you should have no trouble.

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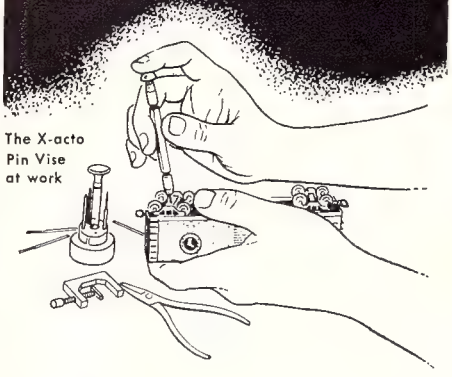
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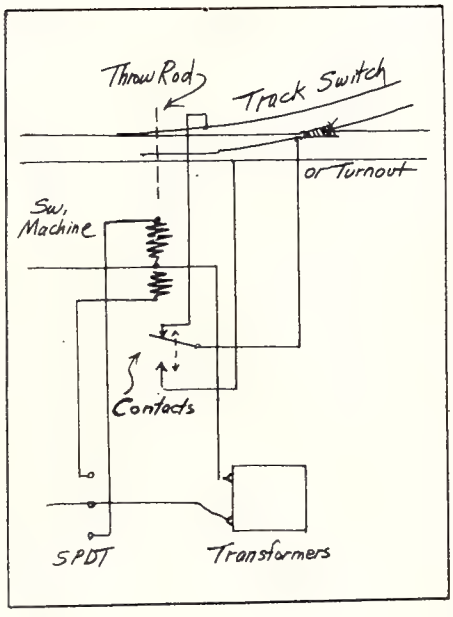


Still and all, many fellows prefer not to rely on the track switch as also an electrical switch, but to reinforce it with auxiliary contacts.

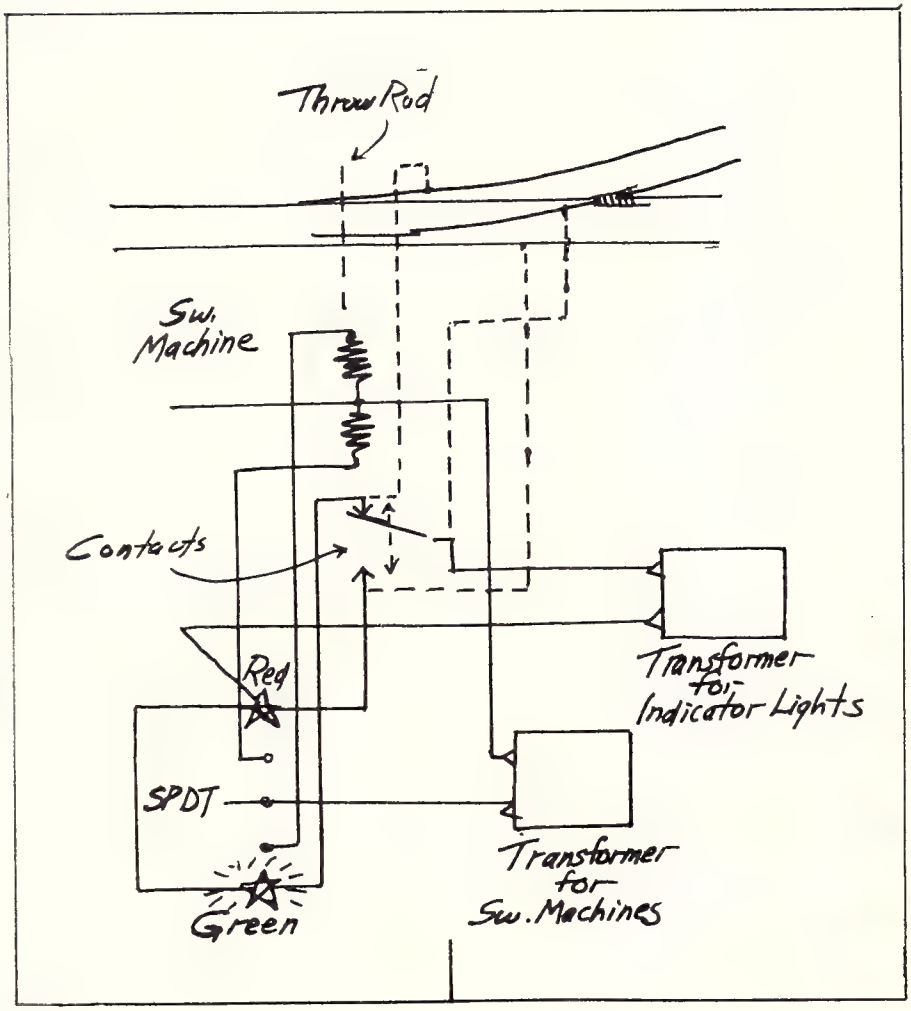
Fig. 3 shows such wiring. The center post of the auxiliary contact is connected to the frog (or thereabouts) of the switch. Each of the two end posts is connected to one stock or outside rail. Soldered connections are usually used, although it can be worked out with terminal track sections at some expense. If you make the wrong connection, you will know it by the fact that you have a short circuit. Then reverse your connections and all will be well. This firmly controls the polarity and the electrification of the rail beyond the frog, the stock rails merely continuing on intact.

Auxiliary contacts on switch machines may also be used to illuminate light indicators on the control panel, as shown in fig. 4, or to light dwarf or full sized signals near the switch which will indicate which way the points are set. The green (or purple) light shows that the switch is set for the main line or the straight track; the red light that it is set for the branch or curve. I have shown a separate power supply for the indicator lights for this reason, that the relatively high voltage used to actuate the switch machines is at or close to the rated voltage of the bulbs and they will burn out in short order. Anyone who has operated Lionel switches knows how brightly the indicator lights on their lever boxes burn and how short a time they last: both run from the same power source. I'd suggest running six volt bulbs on four volts or twelve volt bulbs on nine or ten volts. The Pioneer "Best Friend" is a switch control box that has indicator lights built right in, but they are operated right from the SPDT in the panel. The same can be done with the Walthers No. E-201 toggle. While such short-cuts save on wiring since you do not have to run the indicator lights all the way back from the switch, they also will show whether the switch machine has in fact thrown or not.

The polarity control as in fig. 3 and the indicator light control as in fig. 4 can be superimposed on one set of contacts as shown by dotted lines. This would only get one side of the A.C. line into the trackage, and since this would not make a full circuit, no harm would be done. However I would caution against this short-cut if you have or can get a second set of auxiliary contacts (some switch machines have two sets anyhow) simply to avoid possible feedbacks and need for trouble shooting.

Switch machine coils are commonly wound with enameled wire, and of course before any other wires can be fastened to these ends, the enamel must be removed. It can be scraped off, but a quick way is to use a match or lighter to *burn* it off for a half inch. All joints in switch wiring should be soldered and taped unless screw or other terminals are provided.

It is possible and often desirable to work two or even more switch machines from one SPDT or set of push-buttons. This saves wiring and often saves trouble in working the line. For instance a crossover between two parallel tracks certainly requires that both switches be turned, never just one. Hence wire both machines to one SPDT. It is even possible to use one machine to turn both switches but difficult to keep in adjustment. At one time I had a wye, consisting of three switches, each worked by double solenoid switch machines, and it was controlled by only three push-buttons, wired so that machines would be thrown for whichever leg of the wye the button was pushed for.



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"Off'n the Table Top"

News and Views of TT

By Glyn Lewis

HERE it is, the holiday season once again, so may we take this opportunity to wish you all a very Merry Christmas and the happiest of New Years!

Several of you have written in asking about the "Swift" plant shown in the photo of the tug in the Oct. issue. In answer to those inquiries we are printing a plan of that building. *NOT* a real construction article since we feel that it is not really necessary. We built ours of illustration board with inside corner bracing of ⅛" balsa. The loading platforms are made of Northeastern scribed bass wood. On the outside of the structure the bracing is ⅛ by 1/32 bass wood. If you want some roof detail, and it is rather important as most of the time our layouts are viewed from above, build up a refrigerating unit as shown, add a dowel for a stack and perhaps a few ventilators.

This building can be made to fit your particular space (our width was dictated by track that was already in). In the Oct. and Nov. issues the photos showed this building in an unfinished state. It has since been completed. Swift paints their buildings, trucks and reefers all a bright red, so a good color to use is Floquil caboose red. Roof and shelter over the platforms can be a dull black. The large word 'Swift' can be painted in white by hand or the easy way . . . a Champ decal for the O gauge Swift reefer, it's just the right size. Several new A.L.Co Swift reefers parked alongside the building will give a colorful and interesting spot of industry on your layout. You will note that the end of the building has a platform too, for truck loading. Trucks available from "Gandy Dancer" or John Marshall, painted red will add even more interest and activity to your scene. We made the platform roofs of corrugated aluminum, but this is up to you. They can be corrugated, wood planking, tarpaper, or sheet metal. We have also added a water tower alongside our plant, not necessary but we like it.

This type of plant is known as a "Branch House," is not a slaughter house, but a place to which dressed meat is brought by train for local distribution. Hope you have fun building this trackside structure.

TT Forecast for '57

Just what does the future hold for us in TT? . . . Quite a bit it would seem. First the switch problem. We have of course the H.P. switches, Bob McMinis has the built up ready to install switches in Code 70 rail (both brass and Nickel-Silver) and mighty good they are too . . . AL.CO have new ready to install switches . . . a long buggy, and wood car kits, bridges, trestles, etc., and *coming* an all wood combination station (we did the plans and built up the pilot model, so it should NOT take long now). "Gandy Dancer" word from Ed Fetyk is carefully couched. Ed goes out on no limbs, nor does he make announcements in advance, but he has been working on a pile of really fine TT castings and we know we are safe in saying that he will be offering very soon wood car kits. The first will probably be colorful reefers, with a wood and metal flat car to follow. Joma has the beautiful all brass gondola, to be followed by an all brass tank car, mebbe some new brass trucks too . . . and structures. We don't know Kemtron's plans. They have of course the excellent all metal hopper, the superb "Tiny Tim," the all brass Alco diesel and a multitude of brass parts for the TT builder. . . . We are still awaiting the line of car kits from Paul Arnold. We have seen the pilot models and they are worth waiting for. . . . Still waiting to hear more from Rice regarding the depressed center flat and outside braced box . . . more on this next month. . . . Hal Joyce of H.P. Products is busy on something *big!!!* So all in all the season seems to hold quite a lot for all us TTers.

A question we often hear is "Do you think TT will ever get to the point that HO has reached?". . . our answer is, No . . . we doubt it, and we hope not. . . . This may seem to you a strange answer from one who, in all modesty, has worked pretty hard for the past six years to push TT along. . . . First HO has made amazing strides and we would be the first to applaud its progress . . . as progress in manufacturing and distribution . . . but is it NOW growing as a hobby? We think not. . . . We do not feel it will disappear as a hobby, but we wonder if as a *constructive hobby* it is as big as it was a couple of years ago? It is our hope that TT will continue to grow as a hobby of building for only one reason: the more TTers, the more the manufacturers can produce for us. Our goal is not to make TT a great contender in the toy field but rather to have it be a fine relaxing yet stimulating pastime. At the present time there is enough produced in TT to make ANY builder happy . . . perhaps there is not yet enough variety in kits and locos to satisfy all the kit builders, though one would be busy for quite a long time building up what we

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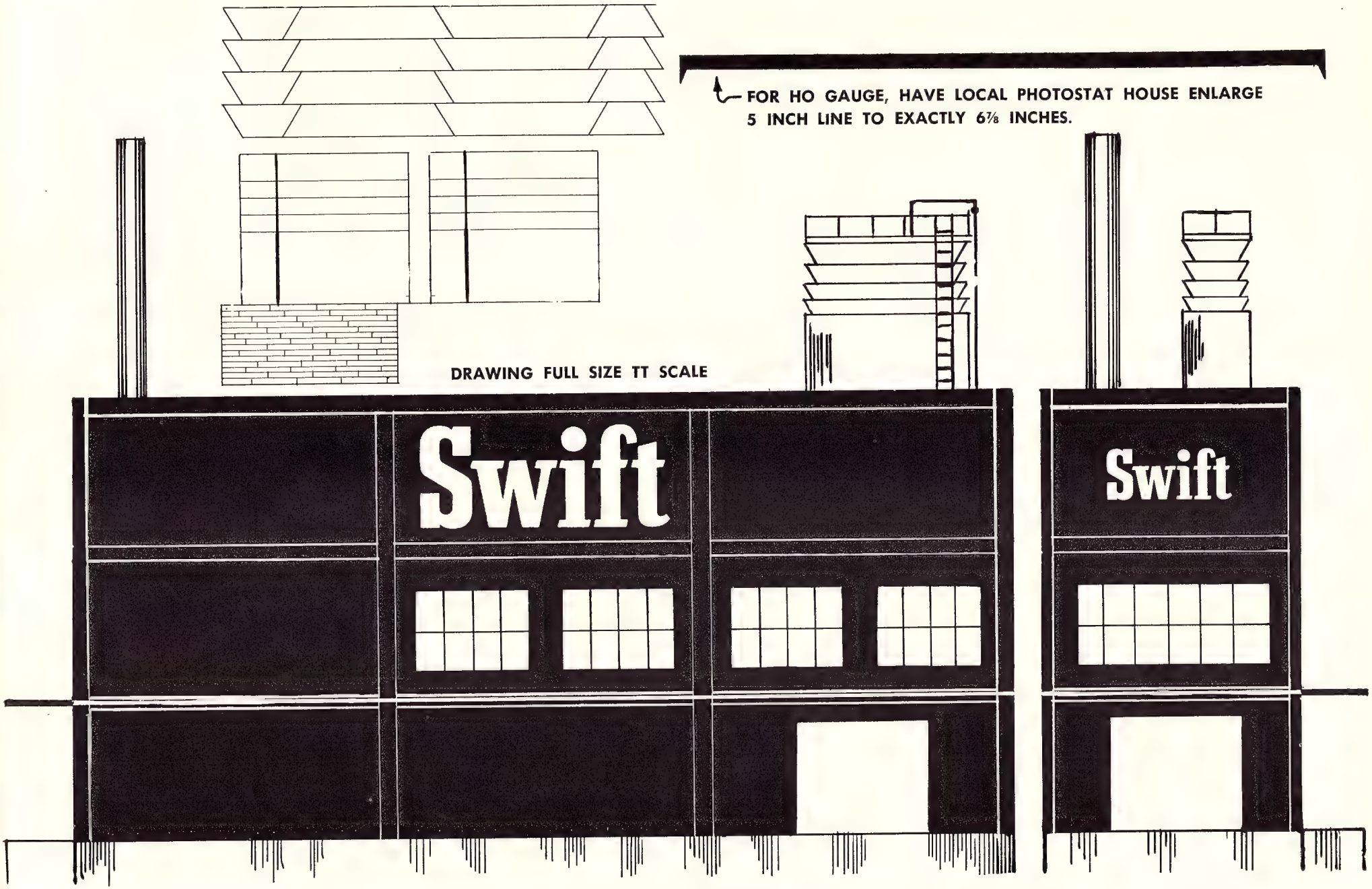
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do have! We are most pleased to see that Tru-Scale has seen fit to reactivate the Silver Streak line of car kits in HO. We always felt that this type of kit along with the newer Main-Line and the always great Ambroid kits were the ultimate in KIT building. Everything was there yet there was some work left for the hobbyist to ENJOY. . . . This is the type of kit we want to see in TT, and we have them!!! The free lancer and scratchbuilder in TT has a great supply of parts and castings to work with . . . so we say again we may never get to be as large in numbers as HO (which is now scale builders, toy operators, and combinations and variations of both) but so what? If there are enough of us to keep the manufacturers busy, we'll enjoy this great hobby for many years to come.

S'funny thing, Hal Carstens and this reporter were discussing the many breeds of model rails the night he came over to "shoot" the "Hudson and Mohawk" and we agreed that many an enthusiast who cares not one whit for building equipment can still operate a "real" railroad if he gets with the scenery bit. . . . Instead of a toy train running round and round he has something approximating the real thing if he scenics it . . . true some of us are strictly equipment builders, and track is just a way to see it run . . . some are operators, small attention paid to detail but very big for schedules and switching operations, others are for structures and scenery. Now if you can not go overboard for any one of these elements but rather combine them all . . . then you are engaged in a hobby that isn't so much railroading as it is recreating a bit of the world around us or perhaps a bit of the world that was around our grandparents. . . . The railroad with all its fascination is still paramount, but at a glance does not appear to be, this it would seem is the ultimate in artistry. After all the history of this country is closely linked with the rails, more so than any other country. The rails linking the oceans played a greater part in the growth and expansion of this nation than any other factor. Yet, unless you are in a great railroad yard or riding on a train, the railroad does not dominate the scenery. It may be the string that ties up the package, and therefore of great importance, but the package and its contents certainly are the most evident. . . . So it is in model railroading. We have seen marvels of engineering that were staggering in the complexity of rail and wire, and so we bow to the mind that conceived and executed it . . . but if your aim is realism, this is NOT your dish . . . it looked for all the world like a platter of brass spaghetti! Hills, rivers, towns, etc., must not appear to be something to fill in the spaces between tracks, rather it should appear that they were there when the railroad snaked through and around them. . . . We use scenery to hide, to deceive as to space and distance, but make it an artful deception. True we do have the "tail wagging the dog" but make it appear to the viewer that the canine is really controlling his appendage.

All the foregoing is jus' ramblin' and perhaps you'll say "Ho-Hum" (That's right, HO-hum. Ed!) so what and mebbe you're right, but after all this hobby, as we see it, is for only one reason, FUN . . . and it's fun to exchange ideas, and to that end we are always happy to hear from YOU. You'll find a free soap box here, and a receptive ear in the person of yours truly, Glyn.

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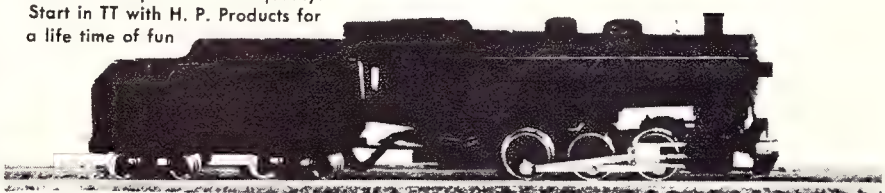

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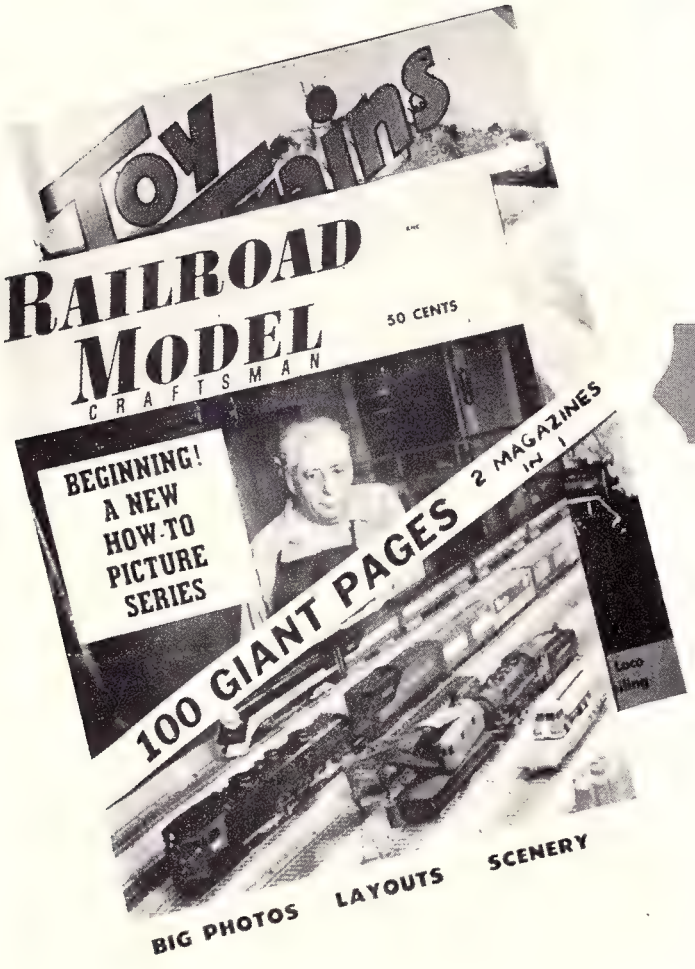

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TROUBLE SHOOTING

Train Table

▶ What kind of a table is best to put a railroad on?—Many Readers.

ANSWER: If your setup is a temporary one, we'd suggest the use of any kind of table you may have available: Ping Pong, Billiard, etc. Most permanent pikes are put up on special model railroad framework not having a solid top (See RMC Nov. '56). Smaller permanent pikes can be built on Homosote or Peg-Board tops.

Model Railroad Clubs

▶ Where can I join a model railroad club. What are the requirements and what does it cost?—Many Readers.

ANSWER: Each month the Model RR Timetable section of RMC lists a number of local model railroad clubs. Your local hobby shop dealer can also tell you of others.

Club dues vary considerably, depending on the scope of the club's operations and what they have to offer. An average might be between 50c-$2.00 per month.

Age limits vary considerably. Some start at 16, 18, 21, even 25 year old minimum. Younger hobbyists often organize groups of their own.

Train Repairs

▶ Where can I get my train set repaired. The locomotive has something wrong with it?—Many Readers.

ANSWER: Almost all of the dealers listed in the RMC DEALER DIRECTORY in the back pages of this magazine offer good, fast repair service on both scale and toy train equipment. May we suggest that any repairs required on equipment scheduled for use around the Christmas Holidays be taken to your local dealer as early as possible since your dealer cannot guarantee delivery of any items before Christmas if you wait too long.

Outdoor HO

▶ Will you publish an article sometime on running HO trains out of doors?—L. L. Jackson, Flagstaff, Ariz.

ANSWER: If any reader has had the practical experience and can send us a well illustrated article on this interesting subject, we'd be more than happy to give it consideration. We know of no permanent outdoor HO lines, but of course any portable pike could be moved out on nice days.

The one big obstacle to HO outdoors would be dirty track which might be overcome by use of spring-power (wind-up) engines, although the best of these we have seen goes only thirty feet on one winding. Live steam is another possibility. With 2-rail, we fear the track would have to be physically cleaned before each session to give adequate pick-up.

The second obstacle would be warpage of ties and roadbed. All commercial tracks would be subject to this, though possibly standard roadbed might be creosoted or something. 1/32" out of line in HO is quite a bit whereas the same distortion of track in O, No. 1, or Standard gauge, the usual outdoor gauges, means much less so far as keeping the train on the track.

Power Pack Voltage

▶ The voltmeter on my power pack reads 16 volts D.C. even when a train is running. I have checked this with two other voltmeters and find that it is reading o.k., and even at the farthest

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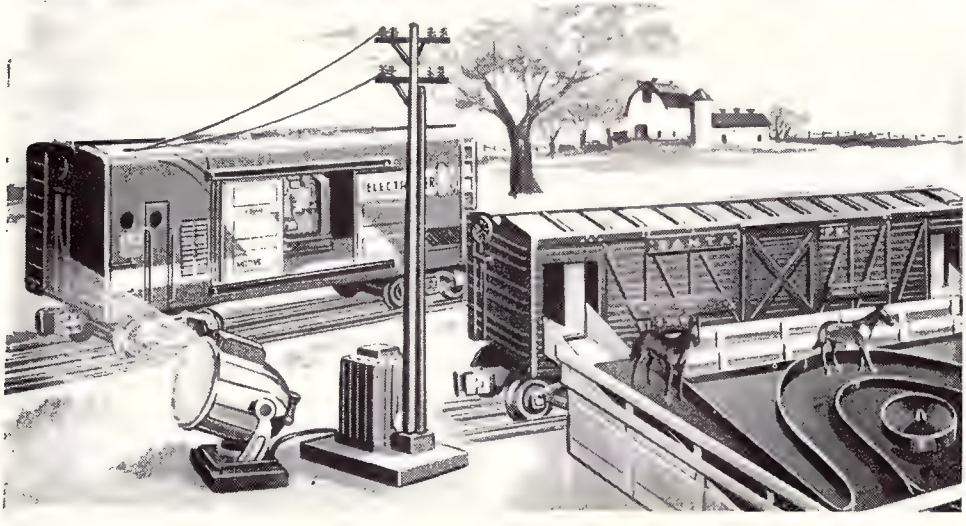

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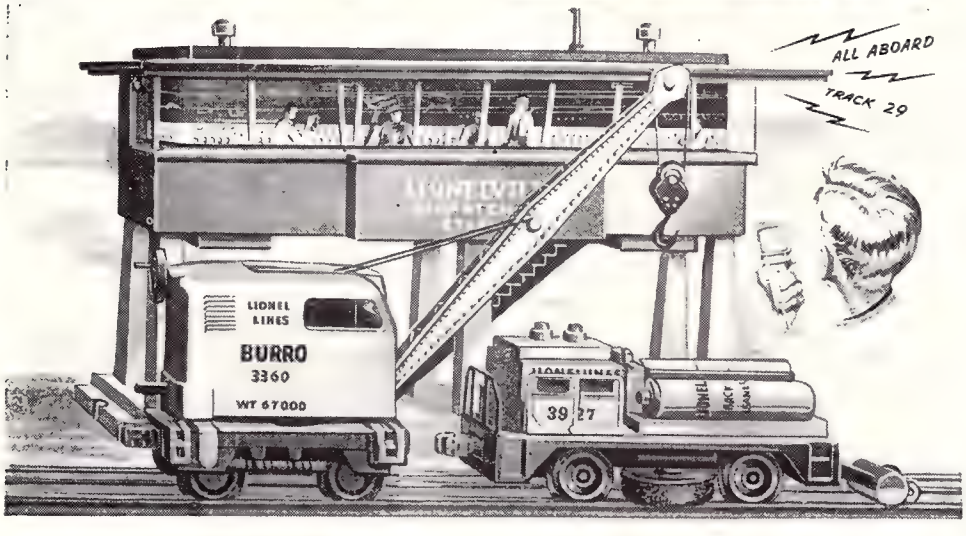

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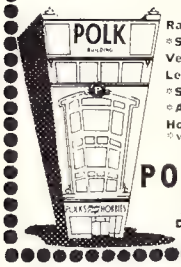

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part of my layout it only drops a little. Since HO trains are to run on 12 volts D.C., will this extra voltage harm them?—James Montford, Cleveland, Ohio.

ANSWER: This question comes up quite frequently. The answer seems to be that the output of selenium rectifiers drops somewhat as they age. Hence after your power pack has had X hours of use, the voltage will be much closer to 12. The manufacturers believe that it is better to drop say from 16 volts to 12 volts than to drop from 12 volts, originally, to nine volts. The overvoltage will not cause damage to the trains, especially if controlled by a rheostat. It will be a bit hard on any grain of wheat (GOW) bulbs rated at 12 v. which is one reason why we favor the 18 v. GOWs for all possible uses where the alleged 12 v. from the power pack is used.

Removing Armature

▶ The armature in the motor on the power truck of one of my older diesels burned out and I obtained a replacement. However after removing the nylon gear from the shaft, I still cannot pull it out of the front piece of the motor owing to the knurling on the shaft not going through the bearing. Is it o.k. to file off the knurling? Or should I force it through the bearing?—E. J. Kendrick, Omaha, Nebr.

ANSWER: Since the armature is burned out, you will not use it again, so either file off the knurling or cut the shaft off between knurling and front piece. After inserting the new armature, you will probably have to knurl it yourself, which can be done by nibbling around the site with a pair of cutting pliers.

Washers

▶ In my construction work I frequently find that I need a washer with a larger hole than is available, at least in my collection. Is there any place I can get a good assortment of small washers with various size holes and of various thicknesses?—Harry M. Sell, St. Louis, Mo.

ANSWER: To our knowledge no such assortment is available. It certainly should have a wide acceptance if made up with model railroad fans in mind. Another idea along the same line would be a "job lot" of assorted sizes and lengths of small machine screws from 00-90 up to 4-40.

We enlarge holes in washers to suit. Chuck correct drill in electric drill in horizontal stand or hand-drill held in vise. Grasp washer by edges with heavy pliers and push it up against the turning drill. Do not use your fingers. Thickness of washers may be adjusted by filing or stoning them.

Layout Plans

▶ I would like to build the so-and-so layout described in RMC. Could you send additional information and larger size plans?—Various Readers.

ANSWER: Additional information we think you'll need is included in the write-up accompanying the layout. If this doesn't give all you need to know, it doesn't hurt to ask, but specific questions, please. Curve radii, length of track, number of switches, etc., may be worked out by you right from the plan if not given. We have no enlargements of the plans except the original drawings which usually are destroyed.

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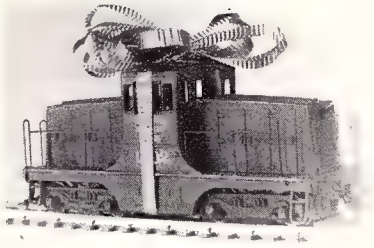

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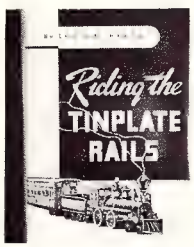

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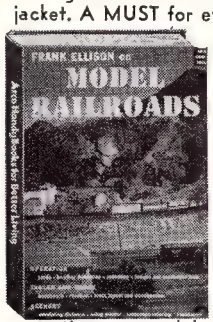

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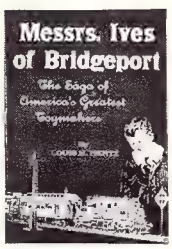

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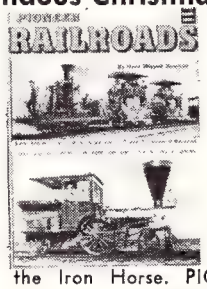

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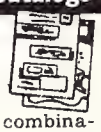

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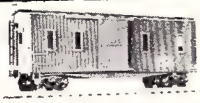

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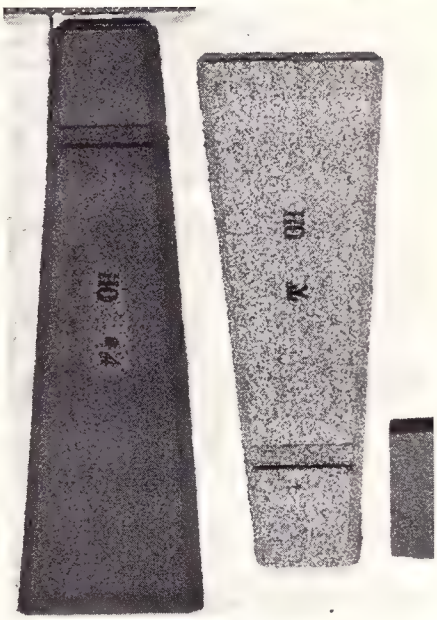

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The roadbed is manufactured from virgin cork and comes ¼ inch thick. There is just enough texture to impart a realistic stone finish, even in the O gauge strips. The roadbed can be used with Snap Track, lay-your-own in any gauge, and also with any of the standard tinplate tracks such as Lionel, Gilbert, Marx, Gargraves, and Peare. The cork has enough strength to hold the spikes but it is recommended that spikes long enough to sink into the subroadbed be used. Tinplate track can be screwed to a sub-base through the Star roadbed.

Roadbed strips are offered for TT, HO, S-027, and O gauge scales. Cork switchblocks are also available as follows: TT; HO Nos. 4, 6, 8, Y, Snap Switch; S American Flyer, S Peare; 027 Lionel, O Lionel, and scale O for Gargraves, Peare and scale switches. There are also HO Snap Track and regular crossover blocks.

A gray ballast paint is also offered in pint cans. Fast drying, it did not harden the samples we tested, and it did not

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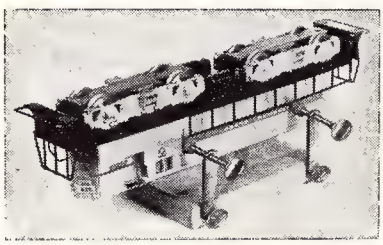

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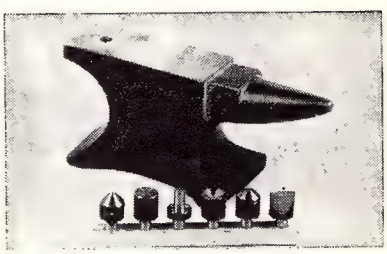

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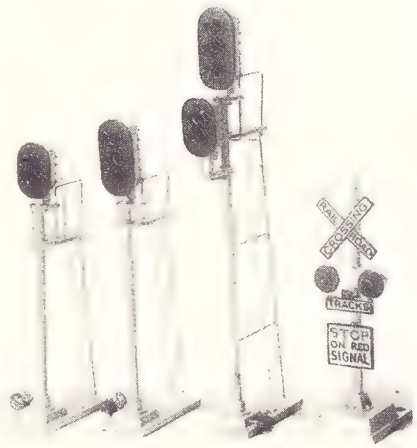
peel. The cork grain shows through the painted surface which is a slate gray in color. The manufacturer claims that the 16 oz. can will cover 148 feet of HO roadbed.

In summary, the cork roadbed offers a quiet base for your trains to run on and greatly improves the appearance of non-ballasted track. The samples tested were all clean cut and of good appearance. Manufactured by Star Products, 106 Bay 37th St., Brooklyn 14, New York. Roadbed and switch-block prices from 30-60c, depending on gauge.



Signal Lights

The Walthers Companies have revamped their signal units completely, for both HO and O gauge. The new units are much smaller in size, thanks to use of tiny 12 volt grain of wheat bulbs. The old units used 2½ volt pen lamp bulbs. All of the new signals are nicely made in flawless pressure castings with full rivet detail.

The lineup is as follows: (O), 2 and 3 indication ground units, 2 and 3 indication bridge units. Bridge heads may also be used to make double ground units. The ground units come complete with tubing, ladder strip and base. The bridge units may be attached to either Walthers, Bachmann, or Selley signal bridges. All of these units assemble very easily; a truly remarkable contrast to anyone who has built the older oversized signals. O gauge signals are mfd. by William K. Walthers Inc., 241 E. Erie St., Milwaukee, Wis. Prices range from $1.50 to $2.25.

The HO signals are even tinier. The single indication dwarf light being less than ¼ inch long and under 3/16 inch in height and width. The HO signals are available in one, two and three light sets and it is possible to cement more together in any desired combination to fit any specific need. While these HO signals are very tiny, it should be noted that they are just about on the nose for O gauge scale and will not be out of scale if they are mounted on a wooden base. HO dwarf ground signals are mfd. by Walthers Specialties Inc., 4749 N. Diversey Blvd., Milwaukee 11, Wis.

All of the GOW bulbs used in both Walthers lines are colored red, green, andor amber, as the prototype calls for. These are excellent units, all easily and quickly assembled, and with the new packaged signalling systems, should make signalling easy. The HO signals can also be hooked up to the Walthers Trigor Snap-Track unit.

Manufacturers are invited to submit new and revised products to the Test Track, Railroad Model Craftsman, Ramsey, N. . for testing and review.

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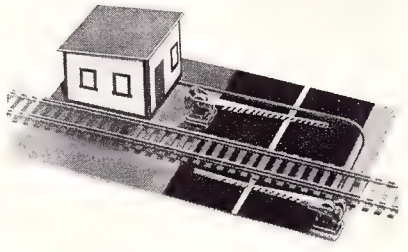

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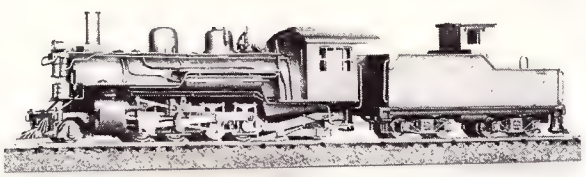

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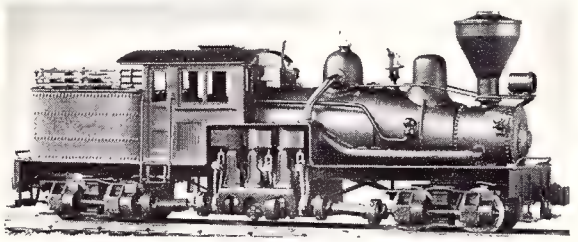

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TRADE: For "O" 2R scale, Jap. HO 4-8-4 w/centipede tender, 4-8-2 "O" C62 4-6-4 eng., 10 4 whl frt cars, 2 PWHL pass cars, 10 issues Jap. Model Railroad mag. Write for details. T/Sgt. Paul W. Frease, 63rd Fld Maint. Sqd., Donaldson AFB, South Carolina.

SELL: AF, Lionel, and Marx tr equip, including train sets, cars and acces. Stamp for list. Stephen Freedman, 13 Anthony Dr., Spring Valley, N. Y.

TRADE: HO steam and diesel locos. Want Walther's Alco switchers, Kemtron, Baldwin diesel switchers. Also PFM EMD switchers. All letters ans'd. John Fulvi, 33 Silver St., Branford, Conn.

WANTED: Bowser, Main or Lindsay 12 volt DC motor; 4 pr. Bowser 63" lia. loco drivers, pr. having gear & worm; Ideal HO Roundhouse kits; Silver Streak Turntable. State cond. and terms. John B. Gascoyne, 4520 Adrian St., Rockville, Md.

TRADE: 2 old time No. 603 Lionel O ga. coaches, and No. 604 obs.—some scratches. 1955 Milw. CP7 train set, never used, for AF or Lionel std. ga. loco, cars, trk and sws, in pref. cond. Lee Gianantonio, 12 Radio St., Rochester 21, N. Y.

FOR SALE: HO cars and equip. Some built kits, some scratch built, with all-metal sprung trucks and Kadee couplers. Stamp for list. W. W. Gilbert, 1295 S. Milwaukee St., Denver 10, Colo.

FOR SALE: Lionel 624 diesel switcher (used 2 weeks), $17. Lionel TW Watts trans 175, $14.50. Ted Goldman, 253 S. Lexington Ave., White Plains, N. Y.

SWAP-SELL: Round House 0-6-0 and Mantua 2-8-2 for an "A" and a "B" powered Penn, Lindsay or International diesel. Sell $20. Ward B. Hammond, 627 1st St., S. W., Mason City, Iowa.

SELL: MODEL CRAFTSMAN 1934 to date, MRR, HOM, etc., good cond. List for stamp. Walt Harris, 45 W. Elm, Stockton 4, Calif.

FOR SALE: AF equip—locos, frt cars, trk, sws, trans, trn board, access. B. B. Hartfield, 7200 Ridge Blvd., Brooklyn 9, N. Y., Apt. 412.

WANT: Lionel 700, 708 locos; 714-715-716-717 cars; T rail, etc. HAVE: 227, 773 locos, 2900 series cars. Tom Johnson, 815 E. Olive, Arlington Heights, Ill.

FOR SALE: 90 prs. Devore automatic couplers & draft gear, new HO, 25c pr. Bowser Mountain, Bowser Articulated, Mantua Mogul, all in original kit, 3c stamp. Joerns, Kerlick Lane, New Braunfels, Texas.

FOR SALE: Varney train, plastic, with Varney couplers: coal, gondola, stock, caboose, and diesel with economy power, $10. Chaplain John C. Kauffman, State Hospital, Willmar, Minn.

TRADE: 2 Atlas manual sws left No. 6 turnout for Varney fruit growers express refrig. car kit plastic. Gary Klein, 55 Fourth St., California, Pa.

FOR SALE OR TRADE: Have list of Lionel O ga. items. Want O ga. made before 1942. Letters ans'd. John R. Koch, 5 Main St., Joliett, Pa.

SWAP: HO RR equip, radio course, electronic flash, magic books and equip. Winchester rifle, 2¼ x 2¼ reflex camera f 2-8 lens for TT. Stamp for list—send yours. Steve LePage, 27 S. Kerema Ave., Devon, Conn.

FOR SALE: 5 Lionel steam locos, 4 diesel, over 20 frt. cars, Gantry crane, signal bridge, over 100' track, 2 trans, hook-up wire, 2 pr. remote controls and sws. Over $800, best offer over $200. Allen Paxton, Box O, Huttig, Ark.

SWAP: Corona portable typewriter, good working cond. for Mantua General, Mogul or Belle, kit or not, in good condition. W. Miles, 3 Glebe Rd., Rondebosch, Cape Town, South Africa.

FOR SALE: "S" ga. equip, good cond., locos, frt. and pass. cars: AF & scale. Send stamp. Robert Miller, Sunset Dr., Orange, Conn.

SALE OR TRADE: Audio equip for HO diesel or electric, sws, Xovers, etc. Include swap value and description. Only excel. cond. desired. Have Fisher, Astatic, Knight, Heath, GE, Test equip., etc. Richard Ott, 608 W. Chestnut, Lancaster, Pa.

WANTED IN ANY CONDITION: Knapp HO ga., O Parmele & Storges 4-6-6-4 New Haven O360 electric X-Acta O ga. copper pass. car kits, Zephyr O ga. kits by Western Coil & Electrical Co. Std. ga. AF. Have O ga. tinplate and HO to trade or sell. Ken Ballard 125 N. W. 6th St., Evansville, Ind.

SALE OR SWAP: Old trains—all gauges—disposing of collection. Want "O" scale, Lionel deluxe Pullmans, 072 items. W. B. Phillips, 2305 E. 23rd St., Brooklyn 29, N. Y.

WANTED: Large Buddy L caboose, wrecking crane, dredge, pile driver, steam shovel, track and sws. Buy or swap. Walt Popek, 15 Main St., Garfield, N. J.

SALE OR SWAP: Tenshodo power pack, 12V DC, 16V AC for $5 or 2 TT ga. frt. kits. 5 SPST, 4 DPDT for $5 or 2 TT frt. kits. Lt. Col. O. J. Ridenour, Box 1395, Baltimore 3, Md.

SELL: Prewar Lionel 2226WX whistle tender, perf., $10; Lionel 2344 twin diesel, excel., $31; Lionel Type A 90w trans., excel, $7; Jiffy sw control, new $2. F. Rossauer, Box 41, Sullivan Rd., Aurora, Ill.

WANTED: No. 414 green Illinois State Car, No. 9, No. 381 locos, must be good. Pay cash or trade O, OO. Gustave Roth, Willets Rd., Harrison, N. Y.

SELL OR TRADE: Lionel catalogs 1936 to date. Complete set of Whistle Stop O ga. Mags. 711 remote tubular sws, new All-Nation frt. car kits. Want Std. ga 400 series pass. cars and $840 powerhouse. Enclose stamp for list. J. Rudley, 711 North 6th St., Philadelphia 23, Pa.

FOR SALE: O ga. Pearce Tool switcher; A. N. F-3 A & B single power, A. N. 10 wheeler, extra detail. All test run only. Prefer local sale. Al Sadowski, 4698 McGregor Ave., Cleveland 5, Ohio.

FOR SALE: Lionel std. ga. blue comet obs. car $422, in blue, never used. $30. Lionel O ga. GGI loco No. 2330 twin motor, never used, $38. J. Schiffer, 70 S. 9th St., Brooklyn 11, N. Y.

FOR SALE: 027 board complete with trans. $350 value for $100. F. Silvestri, 3474 Seymour Ave., Bronx 69, N. Y.

SELL OR TRADE: 1895 Union Pacific publication—The Overland Route to the Rockies and West Coast. Six well built cars. Requests ans'd. Want 1900 period HO. Charles F. Smith, Sta. ACC, Box 110, Abilene, Texas.

FOR SALE: *Model Railroader* and RR books and mags for sale. Free catalogs. Bob Spencer, 6729 Franklin Pl., Hollywood 28, Calif.

WANTED: Old O ga. tinplate locos, also broken equip. to use for parts. Have air pistol, trans. TT equip., etc. to trade. Swap old catalogs for others. What have you? A. Springman, 273 Parkside Ave., Buffalo 14, N. Y.

FOR SALE: C & O 2-6-6-6 & tender, scratch built, Winton style, Kemtron, Dockside. All H. P. couplers. Well built and running, $55. 8 poor to fair cars gratis with above. H. J. Stadie, 711 Douglas Dr., Broderick, Calif.

SELL OR TRADE: Mantua Booster, Jap. 4-4-0 & diesel in fair cond. and new International Open trolley. Want Kemtron Toonerville Trolley, or best offer takes all. Asa Sparks, Trevecca Naz. College, Nashville, Tenn.

SWAP: Scale model RR cars, etc. for old US coins. Also have autographs, presidential mat'ls. Dr. G. Steinberg, 530 Oglethorpe, N. E., Washington, D. C.

FOR SALE: New fire engine, really pumps water, complete with hose in good cond., $15. Robert Stephens, 135 Rowe St., Auburndale 66, Mass.

FOR SALE OR TRADE: 15 old Lionel and AF cars, trks and some parts. All "O" ga. $20 or best offer takes all. David B. Sweet, 1211 Victoria Ave., Los Angeles 19, Calif.

FOR SALE: 2 complete AF train sets. Perf. working cond. complete with pass. and frt. cars, 2 auto sws, trk, trans, and many access. Value $225 sell $125. David Tasker, 328 S. Orange Dr., Los Angeles 36, Calif.

SELL OR TRADE FOR O GA.: HO RR and trolley equip., wire supporters, tarck, sws, etc. R. W. Tesch, 6853 N. Northwest Hwy., Chicago 31, Ill.

WANTED: Copy of Locomotive Cyclopedia. State year, condition, price. Phillip Andrade, 584 E. 141st St., New York 54, N. Y.

WANTED: Complete Lionel Locos or parts; 252, 253, 225, 1652, 1653, 1656, 2025. State cond. and price. Walter Engel, Horse Hill Rd., West Brook, Conn.

WANTED: AF frt. cars with knuckle couplers for ex. with Link couplers. Leo Baris, 113 Sherman Ave., New York City, N. Y.

SALE: 2 Lionel O27 steam frt. sets with extra trk & sws. Self addressed envelope for list. George Bennett, W. 1421 Augusta, Spokane 12, Wash.

SALE: Varney Mikado and Penn Line Pacific, both kits for $45 and post. Sell separately. AF smoke tender $8. Varney 10 wheeler $10. Stamp for list of odds and ends. Box of std. ga. $15. R. Berry, Eagle Creek, Oregon.

WANTED: AF 650 & 651 pass. cars, will pay $1. James H. Blake, 1554 W. Super Highway, Langhorne, Pa.

FOR SALE: Mags. large selection bound volumes. Individual copies, many rare. *Railroad Model Craftsman, Toy Trains, Model Railroader, Trains, HO Monthly, Model Trains,* Exc. cond. 3c stamp for list. Robert Boeddener, 19832 Roslyn, Cleveland 16, Ohio.

FOR SALE: Modern 2 truck Shay Japanese new $35, Mantua 2-6-0 gppd. $20, Mantua General 4-4-0 kit $15. Will accept Mantua 0-4-0T Busy Bee as part payt. S. T. Borden, 754 Stanyan St., San Francisco 17, Calif.

SALE OR TRADE: HO portable layout (4x6) 25′ trk., 3 sws/sw motors and controllers, Mantua sws. and seven cars. Assembled and operating. $25 or trade for TT flat or gondola cars or access. Wm. Cameron, Box 43, Millerstown, Pa.

FOR SALE: O ga. and tinplate equip. Includes Nos. 763, 733 Lionel Hudsons, No. 2321 twin motored diesel, B-L electric loco made by Baldwin, plus many others. Send stamped self-addressed envelope for list. Flint Cande, 48 S. Baldwin Place, Amityville, L.I., N.Y.

WANTED: Lionel AF, Ives, etc. locos, cars and access. O ga. only. Must be in junk cond. Want for parts. Charles G. Chaloux, 677 E. 231st St., New York, N.Y.

SALE OR TRADE: For HO ga. N. P. railway station books showing stations, mileages, ownership, frt. car list, etc. 1955 edition, new, 30c ea. postpaid, $20 for $5. R. T. Chew, 1457 Englewood, St. Paul 4, Minn.

FOR SALE OR TRADE: Bowser "Mountain" 4-8-2 loco. Trade for Mantua Mogul, Mantua "Belle of the Eighties" or other locos. Best offer for cash or trade. Ted Cirillo, 75 E. Bringhurst St., Philadelphia 44, Penn.

SWAP: Hobbytown A&B E-7 diesel, English A&B 16 wheel dr. New cond. Will trade for steam. C. E. Dickman, 3530 S. Dixie Highway, Lima, Ohio.

SALE: S. ga. layout being disbanded. Write for list and prices. R. L. Day, Mail 901, Glenn S. Martin Co., Baltimore 3, Md.

SELL TO CANADIANS in O ga.: Quantity Lionel trk—2 pr. R.C. sws., 2 Lionel train sets and other equip. List for stamped self-addressed envelope. C.W.K. Fraser, Box 11, Cookshire, Que.

FOR SALE: Std. ga. equip. Locos—cars—track—switches—buildings and access. Large collection. Will sell part or parcel. No reasonable offer refused. Kerry Freeman, 542 B 133 St. Belle Harbor, N.Y.

TRADE: HO engs., cars and misc. equip for Fleischman HO equip. Write for list. V. M. Gaspar, 2059 Evansdale, Toledo 7, Ohio.

WANTED: Used Gargraves 3 rail trk. Good cond. reasonable. Joseph Gillam, 5549 Romaine St., Hollywood 38, Cal.

SELL OR TRADE: AF diesel switcher set. $30. 2 pr. RC sws. 3 doz. ea. of str. and curve trk. No. 30B trans. $50. $80 takes all postpaid. Trade for HO. E. Golembiewski, 5746 Fairview Ave., Chicago 31, Ill.

WANTED: Ives O ga. pass. cars No. 140-141-142-143, repainted or original, extra roofs for same. Marx all metal O ga. 3/16 flat car with C&O lettering. N. E. Brown, 416 Central Ave., Rochester, N.Y.

FOR SALE: Std. ga., O ga. access., cars, locos, collector's items, some HO in kits and built up. Trade for HO Pennsylvania prototype locos or cash. Free list. Tom Herlihy, 51 Reliance St., Rochester 21, N.Y.

SELL: Lionel O ga. diesel No. 2354 2-A units 2 motors in power unit NYC lettering. Brand new—worth $50 take $30. G. Hunt, 67 Seymour St., Pittsfield, Mass.

WANTED: Globe HO UTLX 2-dome tank, SFRD "Grand Canyon," PFE sides, kits, cars, especially AC RS-1, Megow 16, Q13, Varney R4 shadow. Advise serial numbers, prices. R. G. Jenevein, 2520 82nd Ave., Oakland 5, Calif.

TRADE: 1947 Locomotive Cyclopedia in excel. cond. for 1938 or earlier edition or O ga. steam type locos. Cyclopedia Pub. Simmon s-Boardman Publishing Co. All letters ans. E. H. Johnson, Rt. 6, Covington, Va.

FOR SALE: Over $250 worth HO equip $100. Over $375 Lionel equip. $140. Will mail list of articles in each. Michel Judge, 318 16th Ave., Belmar, N.J.

FOR SALE: Varney Ec. Pacific, emboss. tender $35; Shorty gas-electric $10; 25 pr. Mantua cplrs, 5 rmps $5.50; 22 pr. Kadee (old style), 2 rmps $4.50. Canadian sale preferred. A Joyce, 11626, 132 St., Apt. 4, Edmonton, Alberta, Canada. (Keep 'em short. Ed.)

FOR SALE: HO Mantua A&B units $20, Yard diesel $11, Penn Line T-1 4-4-4-4- $25. AF No. 5406T Silver Bullet $17. Good cond. Dale Lewis, 1603 Elm St., Coshocton, Ohio.

FOR SALE: New, RTR Mantua equip., includes WM Box car, Texaco tank car, B&O gondola, Borden's refrig. car. Pennsylvania flat car, caboose. $10. John Maier, 500 Puritan Rd., West Palm Beach, Fla.

TRADE: Used O ga, RTR HO ga. for std. ga. AF, Ives, General Trains. Want old live steam, cast iron toys any condition. Send stamp for list and send your list. Bill Paul, 107 Richardt, Evansville, Ind.

FOR SALE: Lionel 700E Hudson, new cab, motor excel., tender slightly warped. Runs fine. Asking $95. Lionel 2332 GG-1, excel. cond. Asking $25. Send inquiries to Frank L. Pinola, Jr., 85 James St., Kingston, Pa. (We had to cut this ad. Keck 'em short. Ed.)

WANTED: Used HO equip. in good cond. from Canadian Model fans. Tracks, cars, and engines. Keith Pratt, Bloomfield Station, P.E. Island.

TRADE: Mantua diesel, good cond. Lindsay 0-4-0 Stubby, fair cond. Both for 0-4-0 Mantua Booster or similar loco in good cond. Earl Randolph, Box 318, Liberty, Ky.

FOR SALE: Back issues to 1936 RMC, MRR, RR Mag., Trains, Lionel Magazine and Model Builder, 10-25c ea. Also train catalogs. Sell or trade std. and O ga. tinplate—prewar. List for stamp. L. J. Redman, 251 Dickson Ave., Ben Avon, Pittsburgh 2, Pa.

WANTED: Railroad and automobile bubble gum cars. Will buy or give cards for RR mags. in exchange. What have you? J. Stubenrauch, 166-04 71 Ave., Flushing 65, L.I., N.Y.

FOR SALE: Lionel No. 1033 Multi control trans. $7 excel cond. New Tyco power pak $7.95. Bruce Hansen, 1100 North Broadway, Haverhill, Mass. Helephone Dr 27-415.

FOR SALE OR TRADE: HO Interurbans for HO PSM PCC cars—Crandic—Ohio Elec-Aroostook Valley trailer cars similar to prototype—combination wooden Int. car—Int. Mail car with Mantua motor. C.K. Given, Box N, King of Prussia, Pa.

FOR SALE OR TRADE: Old Std. & O ga. trains. Some collector's items. Send for list. Trade for Ives std. ga. any cond. Fred Heimann, 580 Forest Rd., West Haven 16, Conn.

FOR SALE: Railroad emblems, cloth, 25c sample and list. William H. Roemer, 136 Jay Ave., Lyndhurst, N. J.

FOR SALE: Lionel AF std. ga. cars, engines, trk, sws, etc. Send stamp for list. Gordon E. Holmstram, 2825 N. Lowell Ave., Chicago 41, Ill.

WANTED: HO — new AF — Maerklin Trix—Swap new S. Ga. AF and Lionel AA Santa Fe O ga. Frank Karn, 3658 Louisiana Ave., St. Louis 18, Mo.

FOR SALE: Lionel No. 623 diesel switcher, repainted BAR, excel. cond., 10 cars, painted misc. roads, 45 str. 15 curv O-27 trk, 6 access, 5 Plasticville sets. Worth $130. $75 or sell separately. Cliff Olson, 77 Cochrane St., Melrose, Mass.

TRADE OR SELL: O27 and O pre-war and present Lionel. Send stamp for details. R. Reev, 108 Kernochan Ave., Hempstead, N.Y.

FOR SALE: AF "Silver Bullet" complete set, excel. cond., $19. New remote cont. sw., $12. 14 str. and 14 curv. trk., $3. S. ga. Lionel 2 train trans., good cond., $6. Rickey Scarry, 108 Spring St., Delaware, Ohio.

SELL OR TRADE: Excel. cond. Lionel loco, auto. cattle car, 3 other cars, uncoupling trk, 2 remote cont., sws, ass't trk and 275 W trans. Cost $150 sell $70 or trade for HO. Lloyd Schultz, Jr., Lost Nation, Iowa.

FOR SALE: Back issues of all types of train mags. Send 3c stamp for list. Richard Simon, 1826 Vyse Ave., Bronx 60, N.Y.

FOR SALE: 2 Varney F-3 Brutes, "A" unit, (die cast metal kits) brand new untouched kits, $29 ea. or $55 for both. Also 2 Varney "B" units, dummy, (die cast) $3 ea. Charles A. Hasek, Jr., 2267 Rochester Rr., Pittsburgh 2, Penna.

SELL OR TRADE: AF trains, trk. and equip. Excel Cond. Sell cheap or trade for 8 mm. movie projector. Send stamp for list. H. Hazenfield, 5 Glenbeck Ave., Dayton 9, Ohio.

TRADE: 3 Ohmite rheostats 65 ohms like new for Athearn RDC car, powered, or Lindsay power truck for Globe diesel or "Little Joe" in A1 shape, or in kit. A. E. Heien, 9054 Louise, Livonia, Mich.

WANTED: Gilbert Erector 4′ loco, Buddy L frt cars—crane, dredge, pile driver, steam shovel. Price and cond?. R. T. Hess, Traffic Dept., Merck & Co., Inc., Rahway, N.J.

FOR SALE Excel. cond., corral platforms $5.90, milk platforms $1.20, "OC" track, 11 for $1, 726 loco and tender $18.50, gondolas $1.50, others. List available. B. Zaborowski, 13272 Cunningham, Wyandotte, Mich.

FOR SALE: Mantua Booster, good cond., $3. English Alco Diesel w/Jerry Martin Centra-clutch, $10. All inquiries ans'd. R. L. Hooke, 492 Highland Ave., Upper Montclair, N. J.

FOR SALE: *Model Railroader* 1940 to 1955 incl. A few recent RR Guides at $1 ea. All offers ans'd. Robert D. Hopper, 6420 Kennedy Ave., Cincinnati 13, Ohio.

FOR SALE: 11 HO engines, steamers and diesels, pre-built and partially built. Ambroid pass. cars and frt. Switch motors. Atlas track and switches. Send stamp. Erwin C. Hughes, 74 Boylston St., Worcester 5, Mass.

WANTED: Reversing unit for 1947 Lionel GGI No. 3032. Richard Hughes, Washington Ave., Washington Crossing, N. J.

WANTED: Parts for Lionel Std. 390E or 384E loco and tender. Other Lionel std. equip. Cond. not too important. Pay cash or trade O and HO scale. L. Jacobson, 2691 44th Ave., San Francisco 16, Calif.

WANTED: Mantua General, Belle, Goat, IMP HO brass locos. Pacific Fast Mail locos in HO, HOn3, TT. Send list, price, cond. Larry Zoerman, 173 James St., Holland, Michigan.

WANTED: Used or broken HO loco parts. Will trade rolling stock, locos and structures or Lionel and AF. Phil DeCarlo, 615 Palmer Ave., W. Keansburg, N.J.

FOR SALE: Mantua Little 6, conv. to Booster, super detailed, and Varney Dockside. Poor cond. but will run. Highest bid over $7 takes all. Mahlon Craft, 1914 Kemper Lane, Cincinnati 2, Ohio.

WANTED: All kinds HOn3 equip., especially locos, kits or built up. J. E. Dyson, 838 Juniper Lane, Ft. Collins, Colorado.

WANTED: Old catalogs, pre-war trains all makes—especially AF. Any 0-6-0. Tom Johnson, 815 E. Olive, Arlington Heights, Ill.

FOR SALE: NES No. 25 clockwork engine and tender, excel. cond. Write for further information. John Kowalski, 1946 West 20th St., Chicago, Ill.

TRADE: New Baker & Standard Roundhouse couplers for NMRA couplers, Jack Schilling, 717 Haines St., Muncie, Indiana.

FOR SALE: AF 1955 S ga. Mountaineer train, 2 other items, Excel. cond. Write what you will pay. Ronnie Violet, 420½ Racine St., Jefferson, Wisc.

WANTED: Copy of "Car Builders Dictionary 1879". State price and postage. Arthur E. Blucher, Box 1211, Auckland. CI. New Zealand.

WANTED: Steam locos, Belle, General, Climax, Shay, Mountain, Northern or Oldtimer. Howard L. Cook, 315 Royal Hawaiian Ave., Honolulu, Hawaii.

FOR SALE: Old Lionel, Dorfan, Ives, AF O ga. tinplate equip., locos, sws. cars, crossovers, etc. in good cond. Send stamp for list. C. L. Foch, 77-17 Hudson Blvd., Woodcliff, N.J.

TRADE: Mantua Shark Nose, perf. running order. Globe B Plastic unit also. For Mantua Pacific or English or Mike of equal value. Warren H. Haines, 825 Cornell Ave., Maple Shade, N.J.

WANTED: Ulrich Pennsy hopper kits (HO) for anything British. All letters ans'd; rugent. David Lloyd,32 Corkland Rd. Manchester 21, England.

TRADE OR SELL: HO equip; 15 locos, 80 cars, access and back issues of RMC and MRR. Want powered wood working tools or all types of guns. William Shlapack, 2241 E. 35th St., Lorain, Ohio.

SELL OR TRADE: Lionel O ga. in good cond., steam and diesel type rolling stock and sws. Will trade for old US coins or complete sets. All letters ans'd. Earl R. Snapp, 202 Colorado St., Johnson City, Tenn.

FOR SALE: Std. ga. equip—engines, cars, trk. and access. Cedrick S. Weler, 83 Park View Ave., Stoughton, Mass.

FOR SALE: HO equip. Engine and car kits never opened. Send for list. Want Railmaster hoppers and gondolas. William J. Bond, 86 Marion St., Buffalo 7, N.Y.

FOR SALE: No. 2023 Union Pacific diesel $22.50. No. 600 M-K-T switcher $7.50. No. 41 Army switcher $7.50. No. 50 gang car $5.50. No. 456 OP coal ramp set $12.50. No. KW trans. $18.50. All like new. Douglas Haustein, 94 Winans Av., Cranford, N. J.

FOR SALE OR TRADE: Lionel O and O27 ga. track and access., Pennsy 6-8-6 steam engine. $15 Oper. milk car $5. R. H. auto. sw excel. cond., $6. Or trade for HO. Stamp for list. S. Krenic, 151 LaSalle Dr., Yonkers, N.Y.

WANTED: AF std. ga. steam loco with oil type tender. Fair price paid. Michael Nardella, 1718 N. Monroe St., Arlington 7, Va.

FOR SALE: 99′ HO Brass Rail $5. 15 HO frt. cars w/trucks $25. 100 or more ass'td mags. in fair to good cond.—RMC, MRR & Trains $30. $50 takes all. Anthony Talbott, 2905 Annin St., Philadelphia 46. Pa.

FOR SALE: AF-S ga. 0-8-0 switcher, Pacific 300 w/Trans, crane, etc. HO Lindsay power unit, Tru-Scale roadbed, Varney Super Mike, A&B duopowered, RDC-1, MDC 0-6-0, Ostrich kit, switch machines, snap trk. Stamp please. Ray Holmberg, 2240-34th, Los Alamos, N.M.

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mailing your MODELS

ONE of the most disheartening things which the miniature railroader is at times forced to undergo is the opening of a package arriving in the mail, containing a delicately detailed and valuable model. We've received a number of them here. We remember all too painfully a beautiful narrow gauge derrick smashed beyond repair, and a superdetailed O gauge interurban which fortunately, was repairable. But for us who appreciate fine models and who know of the hours of painstaking care that goes into their construction; it hurts deeply to see one badly battered. The possibility of damage, is incidently, a major factor in the localizing of model contests so that models do not have to be shipped through the mail.

And yet, it is possible to send the most delicate models through the mail without the fear of damage. Lloyd Giebner ships us his delicately detailed masterpieces month after month and only once, on an exceptionally fragile truck loading platform, was their any damage.

The photo gives a good idea of the procedure Lloyd uses to insure his models arriving safely. Each structure is built on a wooden base which fits perfectly, without wiggle, inside a corrugated carton. The structure (s) is then braced in any of several manners. Sometimes corrugated cardboard is rolled and used as a lightweight cushion. The bridge, photo above, was sent with a protective wooden frame around it to prevent rough handling from pushing in the carton. A plywood piece the size of the carton was also placed on top of the inside of the carton. The bridge, like of all Giebner's models made the trip from Texas to New Jersey in perfect condition.

Locomotives and cars need a different treatment. Wrap them in a good layer of old newspapers or clean rags and place them in a heavy corrugated box having plenty of excelsior therein. This packing material is made up of shredded or rolled up newspaper fragments, popcorn, or any insulating material. There should be several inches on all sides of your model.

Heavy O gauge locomotives pose a special problem. Heavy bronze castings and rough handling don't mix. Shifting weights will cause the model to slam against the walls of the packing case (should be wood) and will shear off dozens of parts and even screws. Brace the locomotive in such a manner that it cannot hit the ends or sides of the box no matter how hard it may be thrown.

A final note. Check with your local postoffice if you're in doubt about anything. Postal laws have changed considerably so that it is permissable under certain conditions to enclose letters in parcel post packages, etc. Certain things can't be mailed, though, although most model railroad items are OK. Main thing is to see that they're packaged correctly so they arrive in the same condition in which they were sent.

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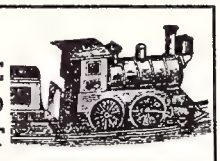

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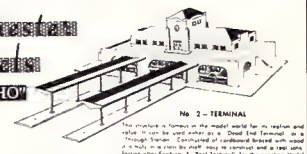

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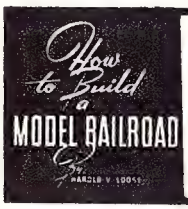

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A
Action Models 49
Addem Products 14
All Nation 56
Alco 27
America's Hobby Center 4-5-6
Athearn 49
Atlas Tool Co. 9
B
Baldwin Model Loco 56
Baumgarten's 61
Bergen Electric 68
Bilt-Rite Models 61
Borie, Elvin G. 61
Bowser Mfg. Co. 57
C
Central Loco 60
Central Valley 56
Clover, Russ 61
Corr's of Washington 13
D
Delaware Valley Hobby Supply 10
Driskill's Model Railways 61
E
Ecco Products 61
F
Fetyk, Ed. 49
Fisher Model Distributors 61
Floquil Products 27
Fowler, Don 57
G
Gardner, E. A. 8
H
H. P. Products 49
Handy Dan 61
Herman Enterprises 14
Herkimer Tool & Model 10
Hexacon Electric Co. 12
Hi-Quality Model Dist. 46
HIAA 60
Hobby House, Inc. of Cleveland 2-3
Hobby Publications 52
Hodgson, Bob 56
I
International Models, Inc. 47
K
Kadee Metal Prods. 10
Kidder, Ken 27
L
L. W. Models 56
Lindsay Prods. 45
Lionel Corp. 53
Little Engines 8
Lobaugh Scale Models 47
Ludington, K. 56
M
Maier, J. B. 56
Mantua Metal Prods. 15
Marnold 61
McCormack, W. H. 49
McMinis, Robert 47
Milled Shapes 61
Miniature Homes 52
Model Engineering Works 54
Model Rail Depot 10
Model Tramway System 27
N
Norgard's 61
O
Oddo's Hobby Shop 61
P
Pacific Fast Mail 57
Parker, J. C. 10
Perma Craft 8
Polks 54
R
Rossmoyne Products 61
S
Schrader Metal Specialties 45
Schopp, William 56
Schorr, Fred 61
Selley, Inc. 60
Simmons Boardman Publishing 12
Special Shapes 47
Star Products 61
Suckert Loose Leaf Co. 52
Suydam & Co. 8
T
Thomas 54
Trost Model Craft 47
Tru-Scale Models 14-11
U
Ulrich, C. J. 56
W
Wagner Car Co. 27
Watson's, Bill 54
Westchester Scale Models 61
X
X-Acto 45

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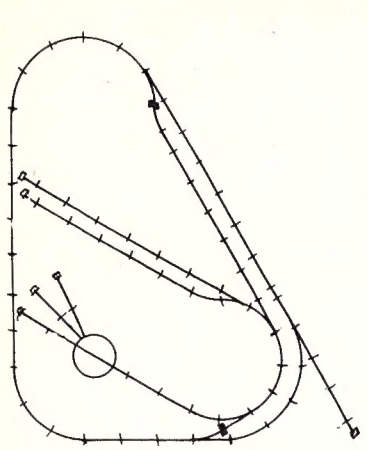
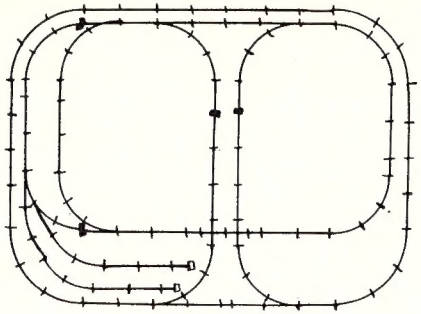
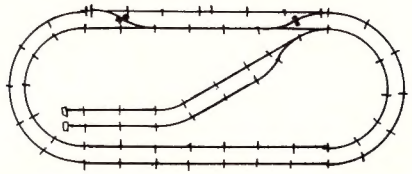
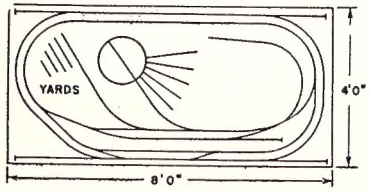
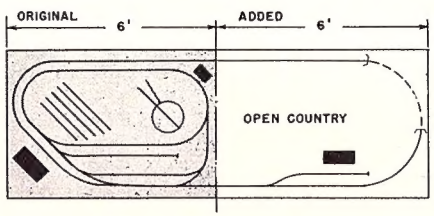
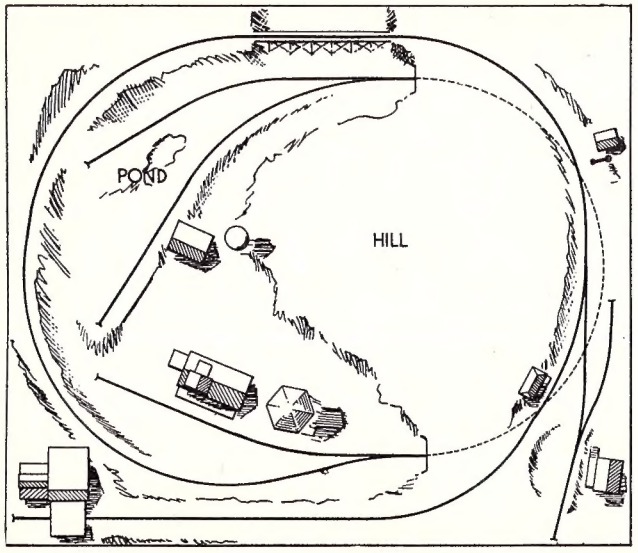


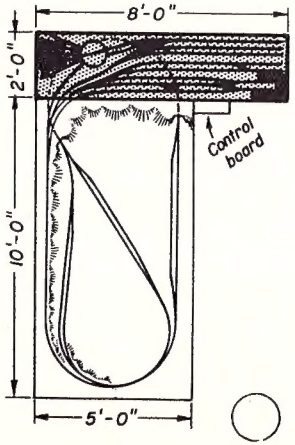












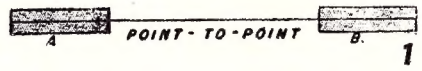
RAILROAD MODEL CRAFTSMAN

Course No. 12

STARTING YOUR LAYOUT

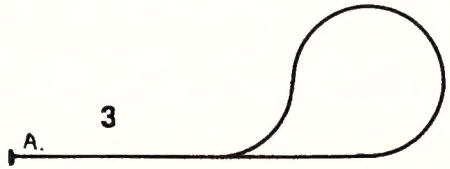
THE PLANNING

The hardest part about model railroading is the actual task of getting started. Once you've made the leap, what follows comes quite easily. There are many facets to model railroading but no matter what you may prefer, you will soon have to buckle down to the matter of designing and starting your layout. Your trackwork is the heart of the hobby.

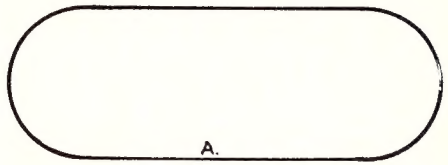


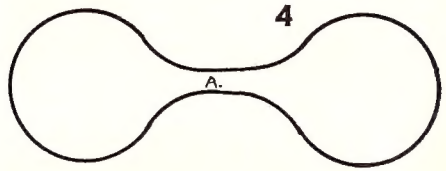
Your first layout should be a simple design. The simplest design of all is just a straight line, going from Point A to Point B, as in Fig. 1. This type of layout is called the POINT TO POINT layout. Real railroads are Point to Point in their operation.

A Point to Point layout doesn't have to be a straight line. Fig. 2 shows how a Point to Point layout can be a very crooked and winding thing. This makes the run a longer one which is desirable in a model railroad. It's not much fun (for long) to just run back and forth over a short piece of track.

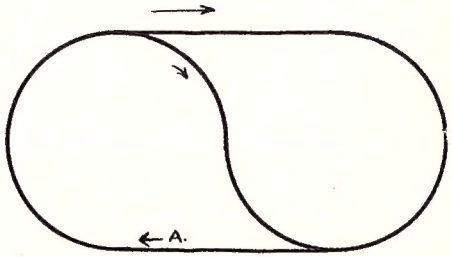


In Fig. 3, we see a variation of the Point to Point system. Here we have a return loop at the far end so that our trains can come back to us. This requires the use of a switch. However, in both the Point to Point layout and in this OUT AND BACK layout, we have no means of reversing our trains when they reach the end of the line. We have to run the train backwards before it can again go forward.



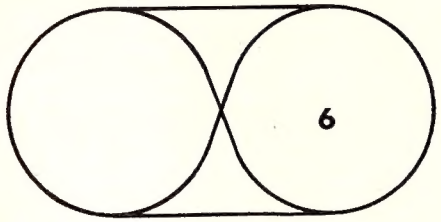


In the CONTINUOUS OVAL we can run our trains as long as we like. Fig. 4 shows such a setup, as well as several variations of the Continuous Oval. Such as with the Point To Point layout, the Continuous Oval need not be a perfect circle. It can look like a dog bone, or water wings, or it can be folded inside itself. These are all tricks to make such space as we have available give us a longer run without going over the same track too soon.

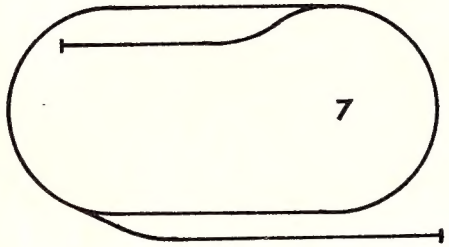


If we have an Oval or Loop type layout, we can easily change the direction of the train by putting in a reversing loop, sometimes called a single cutoff. This is good but creates a problem since you again have to back up the train in order to reverse the direction the second time. See Fig. 5 and try it.

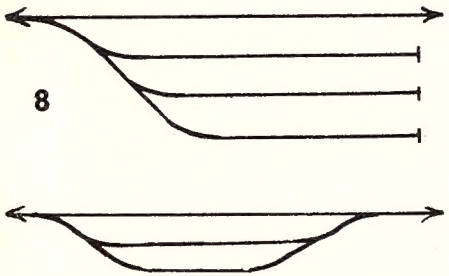
FOLD HERE AND PUNCH FOR BINDING



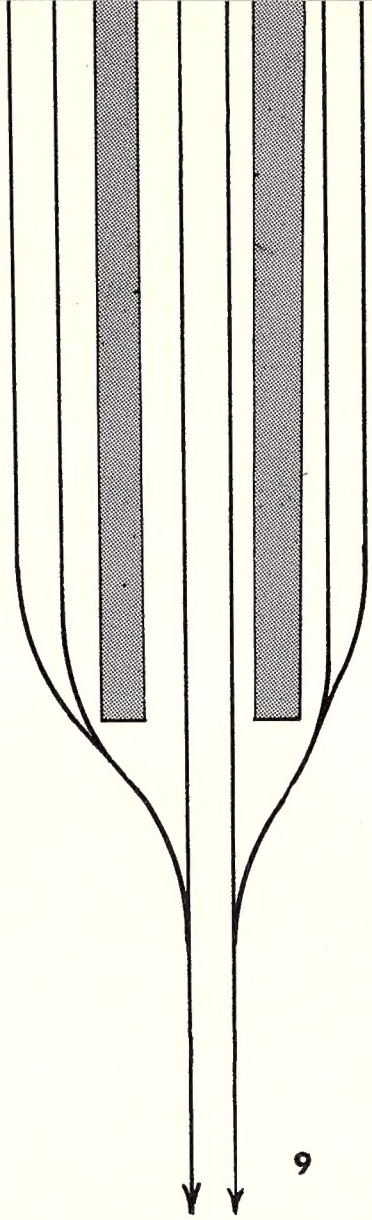
In Fig. 6 we have added two reversing loops or a double cutoff. Now we can run our trains in any direction or even in a figure eight design.



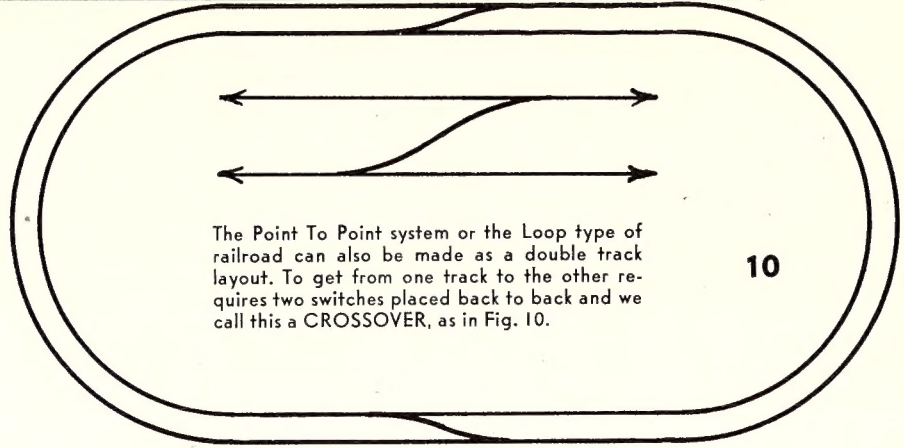
Once you acquire more equipment than you can haul behind one engine at one time, you will need some sidings. An open siding is shown in Fig. 7 and can be made as long as you require. For model use, it is best to make them to hold from 3 to 8 cars, depending on how much room you have.



Several sidings all together combine to create a railroad yard, as in Fig. 8. If you have the room, the yard can be made even better and more useful by providing additional switches at the stub end so that switchers can get at cars from both ends. Real railroads have yards of both types.

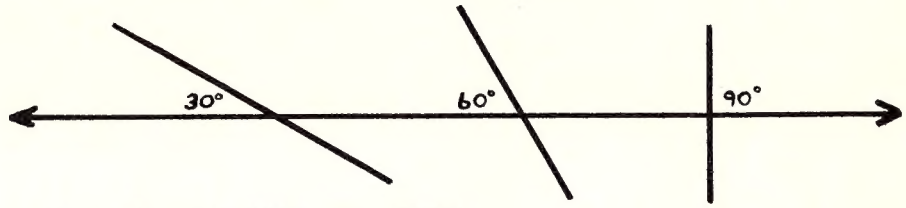


A Terminal (Fig. 9) is very much like a yard but is usually thought of as being the starting place for trains, not merely a storage place for cars. However, Terminals are used to store cars and freight trains do start out from railroad yards. Usually we think of a terminal as being for passenger cars.

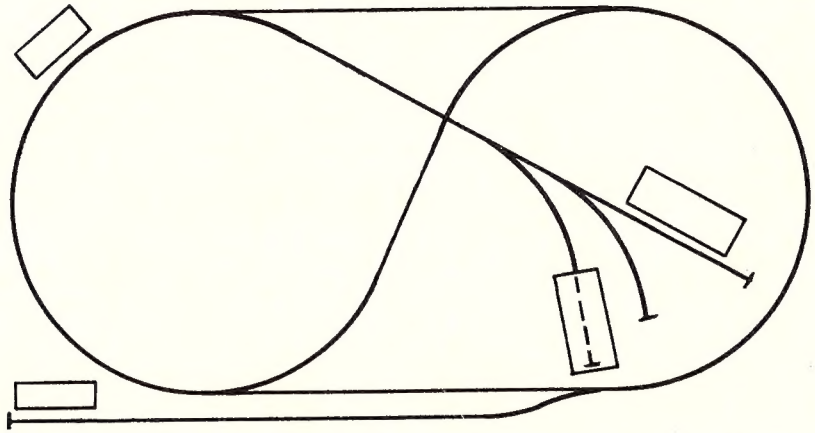


The Point To Point system or the Loop type of railroad can also be made as a double track layout. To get from one track to the other requires two switches placed back to back and we call this a CROSSOVER, as in Fig. 10.

10



Don't confuse CROSSOVER with a CROSSING. A Crossing is shown in Fig. 11, and is used to get a train across another track, not onto it.



Start your layout with a simple Oval as in Fig. 4 and to it add a Siding as soon as you can. To this loop you can add an Out And Back line, more sidings, yards, terminals, crossovers, crossings, and many other designs. Some typical layouts are shown illustrated here.

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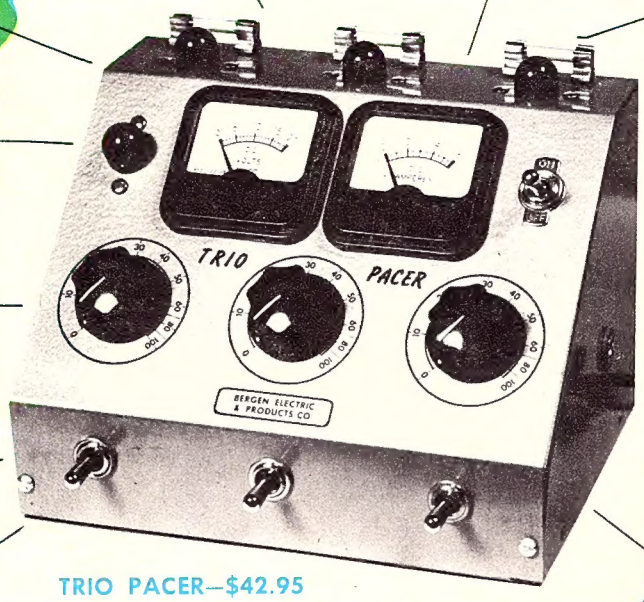

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